

PC REVIEW

THE COMPLETE GUIDE TO PC LEISURE

PANIC NOW!

What to do when your PC goes pear-shaped: seven-page guide

- Become a true PC expert overnight. See page 33
- The insider's guide to making any PC work
- Tips, tricks and your hardware problems sorted!

Flight Sim Win95

The secrets Microsoft never told you about its newest flight simulator

Music for idiots

Beginners' software tried and tested

MMX ARRIVES!

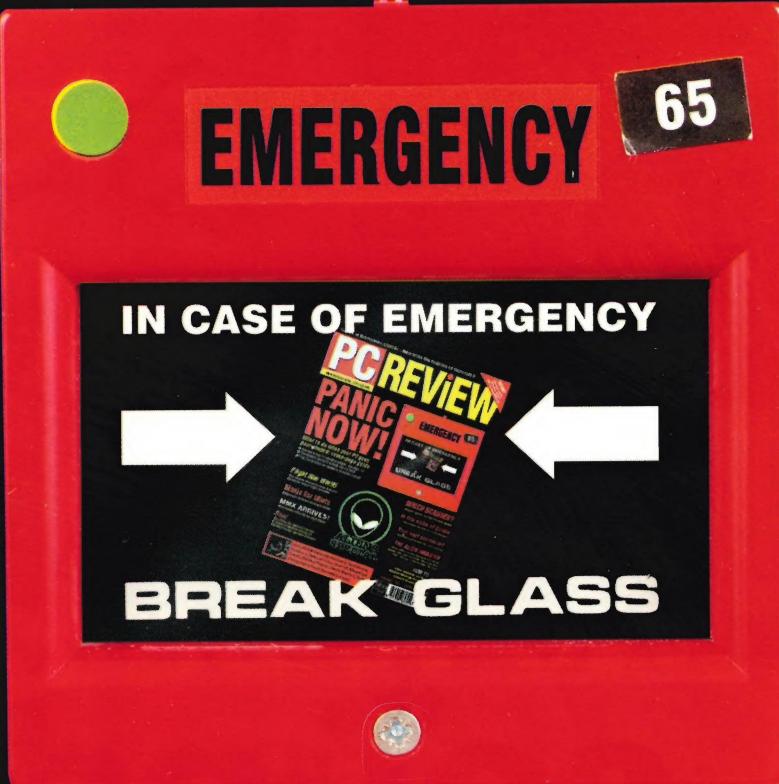
New wave of PCs hit the high street

Plus!

Toy Story: the game of the film
Quicken 5 takes on Money 97
Musée d'Orsay: art sans frontiers



On CD REVIEW this month: Privateer 2: The Darkening, Ecstatica 2, SkyNet, A10 Cuba, Draw 3.0, Mixman Spin Control, Photoshop Plug-ins, Porsche Boxster 2, Musée d'Orsay, Best of British Shareware and more!



WHICH SCANNER?

Buyers guide: six top models tested

In the wake of Quake

We reveal the future of 3D blasters

Your next soundcard

Get the best board for your money

THE ALIEN INVASION

Hunt UFOs on the Net and CD-ROM Space Bar: the next Star Wars cantina Alien Trilogy vs Terminator SkyNet

HOW TO...

Find anybody on the Net

Master Micrografx Draw 3.0

Avoid RSI and eyestrain

February 1997 • £4.99 • US\$13.95





We've broken the sound barrier

again



Introducing Sound Blaster AWE64 Gold

The ultimate, affordable sound card for the audio enthusiast or semi-professional musician

In 1989, Creative Labs Sound Blaster set the industry standard for PC audio. And the Sound Blaster series has been at the cutting edge of technology ever since.

Our latest, the amazing Sound Blaster AWE64 Gold offers you incredibly realistic audio with 64 voices and stunning solo instrument sounds previously used in only very high-end professional products.

All this channelled through a single MIDI port!

The AWE64 Gold gives you unmatched sound reproduction and lets you take advantage of advanced audio technologies such as SoundFont® 2.0 and E-mu® 3D Positional Audio. And for a limited period, the AWE64 Gold comes with Steinberg's Cubasis Audio for realtime music editing and digital audio recording.

On the other hand, if you're a budding musician or power gamer, the Sound Blaster AWE64 will give you incredible audio realism also by breaking the 32 voice barrier.

You'll experience incredibly realistic instrument reproductions as well as stunning sound effects, thanks to EMU 8000 WavEffects and Creative WaveSynth/WG.

Both AWE64 Gold and AWE64 are fully compatible with all previous Sound Blaster products.

Either way, with AWE64 Gold priced at £199 inc. VAT and AWE64 priced at £159 inc. VAT, you've got golden opportunities which you can't afford to miss.

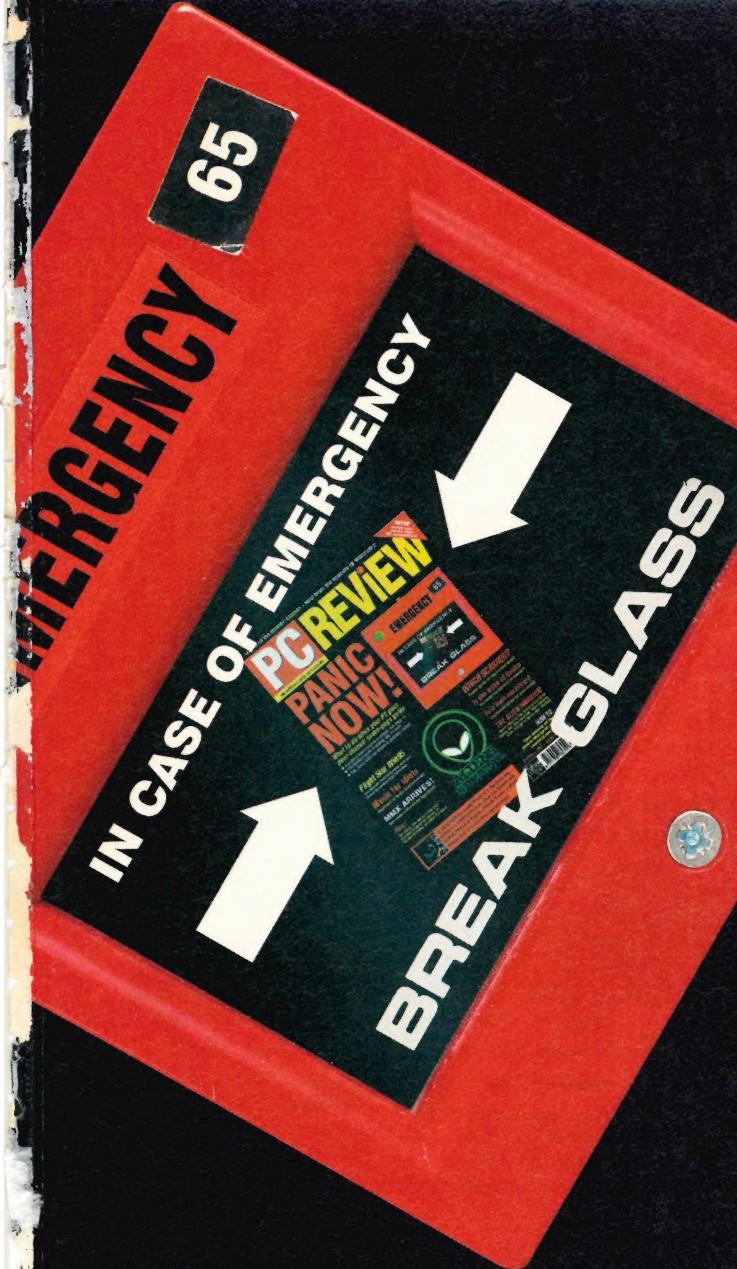
EMU8000 Synthesiser
Creative WaveSynth/WG
SP/DIF digital output
Gold plated RCA output
Onboard RAM

AWE64 Gold
Yes
Yes
Yes (-120 db signal/noise ratio)
Yes (-90 db signal/noise ratio)
4MB (upgradeable to 12MB)

AWE64 Gold

CREATIVE

To find out more, visit our World Wide Web site 'Creative Zone': www.creativelabs.com/64uk
Or contact the Creative Labs Presales Department on 01245-265265



PANIC NOW!

THEN TURN TO US...

What should you do when your PC goes wrong? What emergency measures will get you out of any sticky situation? How do the professionals make it look so easy? Find out the answers in our seven-page guide to becoming a PC expert. And never, ever panic again.

This month...



MMX Arrives

You can now go into the high street and pick up the most revolutionary PC for years. And an MMX machine probably won't cost you as much as you think. Find out exactly how much in our crammed news section.

In the wake of Quake

Sure, it shook the world like the San Andreas fault. But now the *Quake* pretenders are lining up to take potshots at the king. Can *Quake* hold off the likes of *Unreal*, *Deathtrap*, *Dungeon* and, indeed, *Quake 2*?

Flight Sim Win95

Microsoft's definitive flight simulator has sold over half a million copies worldwide. Yet how many PC pilots get the best out of *Flight Sim*? Get your head in the clouds but keep your feet firmly on the ground, with our in-depth guide to this superb high flyer.

Music for Idiots

Finally, programs that let you make real music without any real musical knowledge. Our round-up of beginners' music software asks one simple question: Could your gran use it?

Which Scanner?

Once you've bought one, you won't be able to live without it. But which scanner does the best job for the money? We look at models for every pocket and every eventuality, from simple hand held scanners to sophisticated flatbeds.

ALIENS SPECIAL

Case 1 - The Space Bar 20

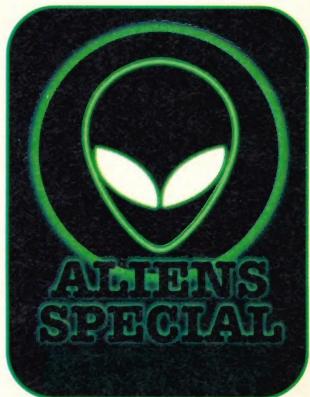
Preview of this odd, alien filled adventure game.

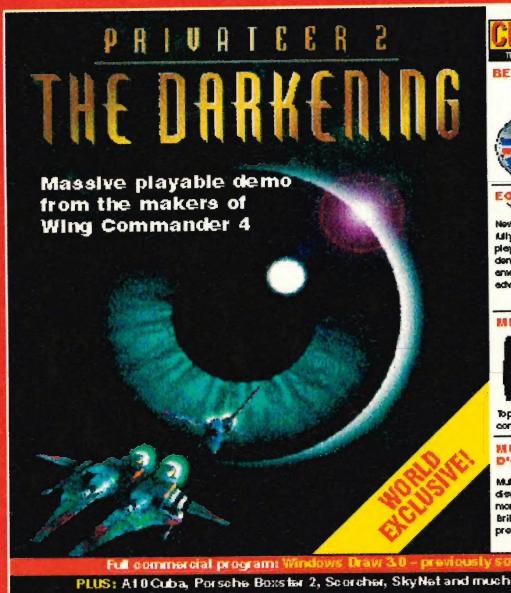
Case 2 - In Search of Aliens .. 26

Using the Net and CD-ROMs to find out about aliens.

Case 3 - Alien Trilogy..... 41

Acclaim's game based on the Alien films goes head-to-head with *Terminator: SkyNET*.



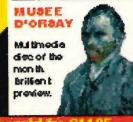


**PRIVATEER 2
THE DARKENING**

Massive playable demo from the makers of Wing Commander 4

WORLD EXCLUSIVE!

Full commercial program Windows Draw 3.0 – previously sold for £44.95
PLUS: A10 Cuba, Porsche Boxster 2, Scorcher, SkyNet and much more!



This month on CD REVIEW...

Player

Play the very best demos first with CD REVIEW. We've got a real scoop for you – the world exclusive demo of *Privateer 2: The Darkening*. Space games don't come any better. Other titles include *Ecstasia 2*, *A-10 Cuba*, *Scorcher* and *Terminator: SkyNET*.

The Works

We've set aside a huge chunk of our disc to bring you the complete *Best of British Shareware 4*, a hand-picked selection of top programs and utilities. You'll also enjoy *Windows Draw 3.0*, *Spin Control Mixman* and a working version of *Visual Basic 4*.

Multimedia

Two exclusive demos. *Musée d'Orsay* takes you on a virtual visit to this wonderful new art disc. *Porsche Boxster 2* is the second part of this motoring screensaver.

Pic'n'Mix

All the software you need to customise your PC desktop.

See
page
109

Open up the disc label booklet for a quick reference guide to controls for the games on CD REVIEW. Turn to page 109 for your five-page guide to using the disc, including hints, tips and more.

EASY FIND

PLAYER

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The History of the PC

Part one of our series on the history of the PC delves back into the deep past. Find out about the computing pioneers with their mechanical adders and vacuum tubes.

The Great Debate: Network Computers

The PC is under assault. Is the future of computing the powerful PC or the simpler yet cheaper network computer?

Re-issues

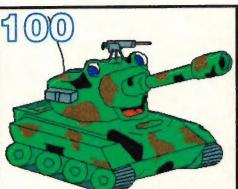
As well as an exhaustive look at the first budget releases of the year, we interview Sierra's adventure supremo Roberta Williams.

Game Guides: Tomb Raider and Flight Sim

The second part of our *Tomb Raider* solution plus how to climb a little higher when using *Flight Sim Win95*.

Musée D'Orsay A Virtual Visit

This shrine to French Impressionism is no stranger to innovation. The gallery is actually a converted railway station. But how does it fare on CD-ROM?



Buyers Guide: Soundcards

The increasing quality of PC sounds and the trend towards decent speakers has brought on the next generation of soundcards. You ain't heard nothing yet...

How to... Find anyone on the Internet

If you're missing someone, the Net can help. We tell you where to look and what to do when you're sleuthing.

How to... use Windows Draw 3.0

It's a top quality drawing package and it's on the coverdisc. Find out how to get to grips with Draw 3.0 inside.

How to... Avoid RSI

We all know the PC can improve our quality of life. But it can also cause medical problems, from eyestrain to backache and RSI. We tell you what to do to stay healthy.

Win a new Sony Yarze

Console pazzaz meets pure PC power in Sony's new bedroom development kit. And we're the first mag in the UK to give one away free. Enter our compo now.

REGULARS

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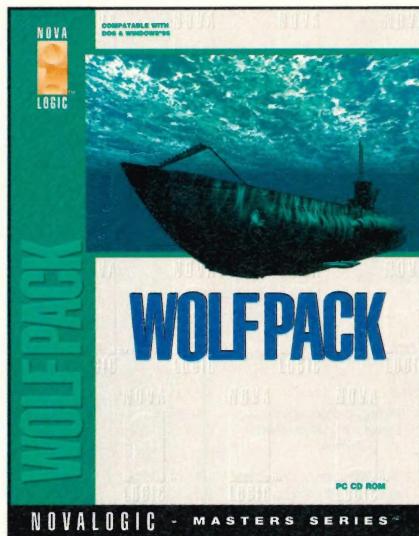
105 Helpline

Tips and solutions to all your PC problems.

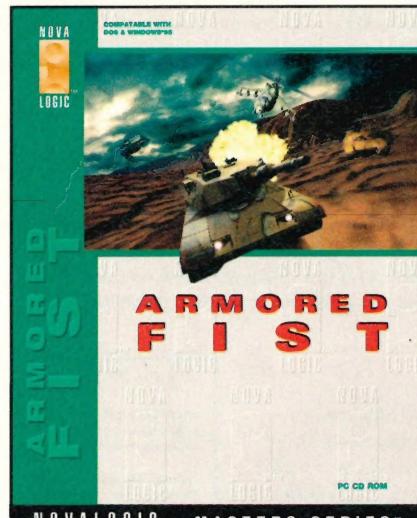


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WELCOME

Have you ever wondered what separates the PC expert from the man-in-the-street? Or why a technician tutts loudly when gazing into your PC? Or how your friend can configure a driver first time? If you've ever been foisted by your PC, you've come to the right place.

Our cover story breaks the Magic Circle code of silence maintained by the so-called 'experts'. We reveal the secrets of getting PCs up and running and keeping them in top condition. So, if you're serious about making your PC work, then Panic Now, break the glass and turn to page 33.

On a personal note, after a whole year editing *PC REVIEW* I find myself off to pastures new, so farewell. My right hand man Garrick Webster moves up from deputy editor to fill my big arm-rest chair, while news editor Owain Bennallack moves up to deputy. I know they're going to do a great job in 1997. Hope you enjoy the issue.

James Binns, editor pcreview@futurenet.co.uk



YOUR COMPLETE GUIDE TO PC LEISURE

Welcome to the UK's most discerning PC magazine. Every month *PC Review* brings you...



NEWS

We look at the first MMX PCs to arrive in the UK, investigate the success of *Barbie Fashion Designer*, report on a revolutionary new type of email, get the latest advice on getting online and smash things with *Wrecking Crew*.

The PC industry is an exciting one, and we'll bring you that buzz every month. As well as the latest on games, multimedia and productivity, we keep you bang up-to-date with the ever-changing PC hardware scene. If a new soundcard or processor is causing excitement, you'll hear it here first. We're not scared of new technology – the kit you'll buy next year, explained today.



News editor
Owain
Bennallack.



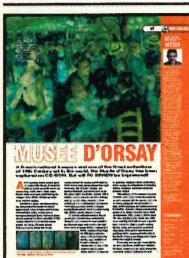
PLAYER

Alien vs Terminator: SkyNET is our prize fight this month but game of the month goes to Blizzard's latest masterpiece, *Diablo*. Elsewhere, Microprose release the first decent Formula 1 management game, *F1 Manager*.

We offer entertaining, detailed and stimulating games reviews that give you a feel for the games you want to buy. Our reviewers are experienced gameplayers who write with passion and authority. Also look out for behind-the-scenes reports from the hottest games studios as well as tips and in-depth solutions for hit games.



Games editor,
Mark
Ramshaw.
He knows
his stuff.



MULTIMEDIA

This month we gape at the paintings in *Musée d'Orsay* and are thoroughly impressed. Elsewhere, we take a swing with *Legends of Golf*, strum along with *Guitar Hits Volume 2* and go on a *Voyage to the Gates of the Orient*.

There's more to entertainment than games, and that's where our multimedia section comes in. We pick out the very best of the latest CD-ROM releases and review them on the basis of how compelling their content is – we're not just impressed by fancy graphics, we're looking for real substance. Our multimedia reviews are the toughest in the business.



Multimedia
host Garrick
Webster.



THE WORKS

Music gets the deep treatment this month, as we turn our ears to beginners' music software, including *Spin Control Mixman*. We also round up soundcards and scanners, and tell you how to avoid RSI on page 102.

The Works is where you come for the more serious side of computing. But we see no reason why dabbling with creativity software and producing your own graphics or music shouldn't be fun. The Works is also where you'll find our utility software, in-depth buyers guides, hardware projects and answers to our readers' problems.



Technical
editor Mat
Broomfield
presides over
The Works.

CD REVIEW

The finest cover disc you'll find on any PC mag – the slickest, most reliable front end, and the best exclusive game demos, productivity apps and multimedia software. Don't miss our world exclusive demo of the *Privateer 2: The Darkening*, the new benchmark space sim.



The PC REVIEW charter

AUTHORITY: All the team calls upon extensive experience in their fields.

DETAIL: We always check the facts – we never take a company's word for it!

HONESTY: We never allow corporate interests to obscure the truth.

VALUE: You are spending your own money – so price is always an issue.

VARIETY: Each month we select a mix of hardware and software.

QUALITY: We seek out the best and turn down dozens of products offered to us.



Our coveted **Essential** accolade is only given to the very best products – the things you can't live without.

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An audience with...

RON COBB

The creative force behind the Cantina scene in Star Wars, the aliens in Aliens and Rocket Science Interactive speaks to PC REVIEW.

Ron Cobb has worked on some of the best action movies ever made. Star Wars, Aliens, The Abyss and Raiders of the Lost Ark are all on his CV. Having joined Rocket Science Interactive around two years ago however, Ron Cobb has now turned his attention to making games. Here's what he told us about adjusting to his new medium...

Why was it that you moved from Hollywood into gaming?

What led me into the games industry was primarily Peter Barrett, the Australian who started Rocket Science. He came out of the blue and essentially provided the gangplank for me into the industry by challenging me and saying he wanted to do cinema-like games. It was specifically because of my film background that he thought I would be appropriate. I had not been particularly attracted to a lot of games as they were before. I was amused watching them, but I was very challenged with the idea of making them using some of the more cinema-like techniques.

The first contact many of us had to Rocket Science was through that *Wired* cover about two years ago. People expected a lot, but the profile has slipped away a bit. What happened?

If I had more to say about it I would have had a lower profile in getting started, but it was kind of unavoidable because we all have reputations from film. So when the company was formed it was kind of the equivalent – though on a lower level, but a hipper level hopefully – to a Spielberg or a Lucas going into the business. I'm sure it was going to be hard to avoid the hype. And indeed, without knowing it, we were boxed in by the technology at the time. I felt that acutely. I was very, very enthusiastic about what we tried to do with *Lodestar*.

Have you changed your ideas about what makes a good PC game?

Yes. I felt right from the start that it was a learning process. As far as changes are concerned, I think



Movies were Ron Cobb's speciality, and he certainly had a hand in some big ones. Will his games be blockbusters too?

that the really difficult task of authorship is to have interesting ideas that stay ahead of the player. You really need interesting and intelligent people hidden behind the interactive process much as you would with a good screenplay writer or designer. I've always been interested in going against the grain and not necessarily doing a lot of focus testing. If you cater too much to the expectations of the player they'll let things drift into a rather conservative ghetto where the games get repetitious. I'm motivated entirely by enthusiasm and I'm never very enthusiastic about repeating myself.

You've been working on the adventure game *Space Bar* with Steve Meretzky, and the game has a setting something like the Cantina scene you designed for *Star Wars*. Didn't you feel you were repeating yourself there?

The idea that it's set in a cantina did worry me at the beginning, but meeting Steve, with his humour and his originality, skewed it entirely away from the Cantina scene of *Star Wars*. I am associated with

that scene a bit, and I didn't want to feel we were ripping it off, but I thought his ideas were so fresh and unrelated that I felt confident doing it. What I contributed more than anything was the look, the design of the characters and the setting.

What games are you playing at the moment?

I tend to be a big fan of good flight simulators. I like that free-form purity of mastering a piece of technology and apparently going places. I've always liked *Quake* and *Doom*. I look for humour in games – even if it's black humour – and wit. I don't like formula because then your players become conservative too, and they don't allow you to innovate and try new things.

Like a television audience maybe?

Yes, exactly. I don't think that the gaming industry should do the same thing to their audience as the television industry has done to theirs. I find that the games magazines also reflect a kind of conservatism that isn't appealing to creative people.

George Lucas, who you worked with on *Star Wars*, preceded you in the games industry with LucasArts. Do you still talk to him?

No, not really. I must say that I really had limited contact with George when I did the *Star Wars* scene. I just met him briefly and he was terribly busy. Actually, I know Steven Spielberg a lot better. The person I've worked with most is Jim Cameron with *The Abyss* and *Aliens*.

Yet of the three he's the only one who hasn't gone into making games yet.

I'm sure he's got something up his sleeve. He's going to be doing some of these big amusement park rides. Then, eventually, that will come down to a game level, I'm sure.

Space Bar is due out next month – turn to page 20 for a full preview of this odd adventure.



IN THE NEWS

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PLAYER IN BRIEF

FLY ME

Interactive Magic claims *Air Warrior II* will set the Net buzzing with a new generation of on-line aviators. With over 25 historic aircraft available, stand-alone players should also get the exposure they need to defeat the on-line veterans. Check out www.magicgames.com for sign-up news.



BUY A BUG

Grolier is set to offer a flight sim with a difference in the shape of *Banzai Bug*. If you've ever wondered what it's like to be a fly, here's your chance to find out. Hover over things, eat food and buzz in people's ears when *Banzai's* released this March.

COLD COMFORT

If you've exhausted the best-selling *Settlers II* (which we awarded an eight back in Issue 56) then Blue Byte has the mission disk for you. For £14.99 you get new maps and a new winter scenario complete with snow and ice.

FIGHT ALIENS UNDERGROUND

A new twist in the strategy sim genre comes from Avalon Hill this month. *Cave Wars* is set underground, and your armies must fight subterranean empires with a mixture of artillery and magic. Once you've got the underground, it's time to gun for the surface. It's out this month.

FIGHT ALIENS WITH FIRE

Yet another new strategy game is on its way. Gametek's *Dark Colony* promises in-game lighting effects for smoke, fire and missiles, zooming in and out capabilities and scenario builders to help you enjoy your war on an alien world. *Dark Colony* hits the streets this summer at an expected price of £39.99.

A JOYOUS STICK

Need a new joystick? The £19.99 PC Sabre Pro offers four fire buttons, a hat control, auto fire and an extra long cable. SpectraVideo claims its tactile hand grip provides a much greater degree of sensitivity and comfort than rival joysticks, and it's the perfect companion for flight sims. At that price, who'd argue?



NEWS

BUY AN MMX PC

Next generation of home PCs hit the high street

MMX is here. The new technology – which improves the multimedia capabilities of Intel's Pentium processor – is now available in the high street, with Viglen, Apricot and Packard Bell systems among the first on offer.

Most other big PC manufacturers have also announced imminent machines incorporating the Pentium processor with MMX technology including Compaq, Fujitsu, Olivetti, Dell, and Gateway 2000. The Fujitsu Indiana is typical of the new machines. It comes in two flavours – 166 and 200MHz – with 16Mb of RAM, a 2.1Gb hard drive and an internal modem. "We are delighted to announce that Fujitsu is one of the first to market with Intel's new technology," says Neil MacDonald, Fujitsu's Vice President for Retail Trading. "We are excited by the impact this technology is likely to have on the future of the entire PC industry."

Compaq modestly terms its new MMX Presario PC the 'Super PC'. To get the very best out of MMX, Compaq has fitted the machine with a 16-speed CD drive, Sync DRAM memory and Super

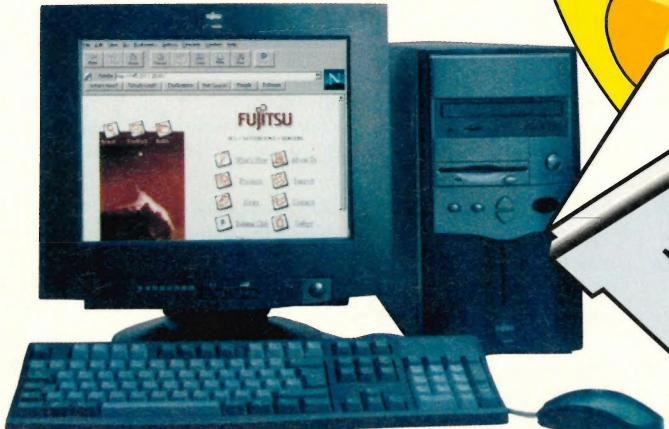
Performance hard disk drives. "Our engineers have worked closely with Intel at the development stage to ensure the Presario makes the best use of MMX," says Compaq UK's Lisa Clarke. "As a result, this new range will set new standards for home PC users."

Viglen has already priced up its Genie P5/166M MMX PC at just under £1300. That gets you an MMX Pentium 166MHz with 16Mb of RAM, a 1.6Gb hard disk, an eight-speed CD drive, 15-inch monitor and a software bundle including *POD* and *International Space Station Simulator*.

Intel claims that MMX PCs run existing software on average 10 to 20 per cent faster,

rising to 60 per cent for code written specifically for MMX. The unexpected boost enjoyed by legacy software is attributed to architectural improvements Intel has made to the Pentium, including a doubling of the cache to 32K.

To take advantage of the new multimedia instructions, code must be written for MMX



Fujitsu is just one manufacturer hoping its new MMX PC will gain a share of the lucrative consumer market.



▲ The new MMX logo indicates that software will take advantage of the Pentium Processor with MMX technology.

machines. This means two versions of the same title on the shelves, or publishers may include two versions of the software in single packages. You'll be able to tell which titles are MMX compatible from the new MMX flash on the box.

The flurry of excitement surrounding the new machines is likely to stir up even more enthusiasm for the home PC. But industry analysts expect it will be a few

First Look at Dungeon Keeper



After three years, Peter Molyneux's baby is about to break water. We hear that pressure from parent company Electronic Arts should ensure Dungeon Keeper is available by April. Dungeon Keeper's twist is that you play the bad guy, with a battery of monsters, spells and traps to dispatch over-eager adventurers.

MM-eh?
As reported back in PCR59, MMX is Intel's most radical reworking of its core chip since the 32-bit 386 processor in 1985. MMX extends the capabilities of the Pentium with 57 new instructions. Specifically aimed at home entertainment software, these instructions enable programmers to write more efficient multimedia routines. The improvements are staggering. Multimedia software written for MMX receives a performance boost of 60%, rising to 400% for certain graphics applications. According to Intel, the term 'MMX' doesn't actually stand for anything, although the words 'multimedia' and 'extra' seem uncannily appropriate to us.

Creative Moves

The trend in PC technology is for functionality to migrate from custom chips to the main processor. For instance, Intel's 386 chip was partnered by an optional floating point maths co-processor, the 387. With the release of the 486, this floating point computation was built-in to the processor, rendering the extra chip unnecessary.

Similarly, some had claimed MMX would end the need for sound and graphics cards. In reality, while MMX can deliver improved 3D performance and rudimentary wavetable sounds, it won't be capable of leading-edge multimedia. Instead, MMX enables manufacturers to concentrate on delivering even more accomplished products.

"Although MMX is a valuable extension of CPU technology, it will not replace the sound card," agrees Sim Wong Hoo, chairman and CEO of Creative Technology. "With MMX, and its ability to handle some of the base-line multimedia functions, we can deliver increasingly more sophisticated solutions." Diplomatically, Intel backs these sentiments. "We are excited to see companies like Creative using MMX to further enhance their products," said Claude Legise of Intel's Content Group. "Using MMX, Creative is developing superior media-rich solutions that further advance the PC as the premiere computing platform."

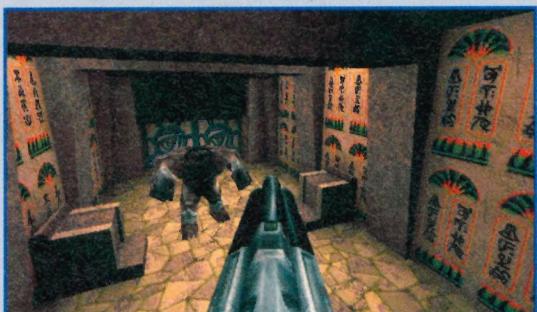
GAMES IN THE FRAME

This year will see the launch of over 100 MMX titles. One of the first is *POD*, a driving game from Ubi Soft. The MMX version of *POD* boasts 65,000 colours on screen at once, running at 30 frames per second. According to Ubi Soft's Mark Strachan, MMX performance out-does even the soon to be released Nintendo 64 console.

It's when you compare two versions of the same software – with MMX and without – that the benefits are obvious. With MMX, Dorling Kindersley's new *Ultimate Human Body 2.0*, enables you to rotate the human skeleton through 360 degrees in real-time. Without it, you are limited to replaying animations through four planes of movement.

Most games publishers are now working on MMX titles, although a few are adopting a wait-and-see approach. Sega is embracing it, promising the PC release of *Virtual On* will match the arcade version frame for frame. "This is the start of a new era in high-performance PC gaming," says Sega's Hitendra Naik. "Intel's MMX technology takes PC gaming even closer to the genuine coin-op experience."

Other titles about to pop out the pipeline include Maris Multimedia's *Space Station Simulator*, Mindscape's *Megarace 2* and, most importantly, GTI's *Unreal*, which many believe will sell MMX to the masses. (For more on *Unreal*, turn to page 16).



Unreal with MMX promises the lucky few 24 bit colour and an eerie landscape lit by blue moonlight.



The MMX version of *POD* is already available, while non-MMX PC owners will have to wait until April.



MULTIMEDIA IN BRIEF

HELLO SOPHIE

Sophie's World, the philosophical novel which sold more copies than any other book in 1995, is being turned into a CD-ROM by Macmillan Interactive. Starting with the basic question 'Who are you?', the disc will take users on a journey through 3000 years of philosophy beginning with Socrates, winding through some of the greatest minds in Western thinking, and ending up with Sartre. It will be out in Spring at £39.99.

CAR CLUB GOES MULTIMEDIA

Normally devoted to helping its members get their cars started on cold winter mornings, the AA has gone into a different line of business by launching a multimedia atlas. *The Quick Reference Atlas*, according to the AA, boasts the highest quality maps, pinpoints 8000 city locations and enables you to measure the distance between any two points on the globe. It costs £24.99.

SPEAK RUSSIAN EASY

Russia, they say, is the new frontier of capitalism. If you're heading out there, however, it might be a good idea to capitalise first on the latest disc in Europress' *Language Labs* series. With over 800 Russian words and phrases taught through some 200 exercises, *Language Labs Russian* won't leave you stuck for words when it comes to ordering a vodka or calling for a cab in Moscow. And all for just £19.99.

OUT OF THIS WORLD

"It's an amazing way to explore your universe", says Mindscape of its new CD-ROM release *The Universe Beyond*. Taking you on a voyage through both inner space and outer space, the disc will give you a quark's eye view of the formation of matter, in-depth information on various astronomical subjects and debunkings of mystical space-related folklore. It sells for £34.99.

FISHING USA

Fly Fishing by JR Hartley gave you the opportunity to fish three rivers in the UK and Ireland, but now thanks to Gametek you can head out to the Western USA to fish three more. *The Art of Fly Fishing*, which hits the shelves this summer, takes you out to the Yellowstone River, Green River and Silver Creek. In addition to the chance to flick your flies tantalisingly before hungry trout, the disc has a detailed library on the subject.

BOND, JAMES BOND

Ian Fleming's world-famous silver screen spy James Bond is to be the subject a new CD-ROM being launched by Eidos. Promising women, explosions, women, incredible missions, women, villains, women, fast cars and more women, the disc will be an 'interactive dossier' on 007. There will be an interactive map illustrating every Bond mission, storyboards from all the films and data pages on key cast members. And, of course, women.



DVD DEBUTS

New PC drives will be here by summer

Panasonic has launched the world's first commercial DVD player. Indeed, it's launched two – the DVD-A300 and the DVD-A100. The only snag is you'll have to fly to Japan to buy one, where you'll be asked to hand over ¥79,800 (about £450). These players aren't PC compatible, but they hint at the sort of storage we'll all have soon.

The biggest obstacle to world-wide DVD introduction has been copyright protection. The film industry has insisted that an encryption mechanism is built into the drives, since a single DVD disc can easily hold an entire movie. Although the first DVD drives will be read-only, read/write units will quickly follow, which could fuel mass piracy.

Agreement has now been reached, and the industry is racing to



bring the first drives to market. Hitachi, Mitsubishi, Panasonic and Toshiba all aim to have PC drives available in the States by summer while Creative Labs is working on a budget DVD drive kit to beat them all. There's no UK release dates yet however. DVD is expected to eventually replace CD-ROMs and floppy drives, so the market is potentially vast.

The PC software industry is obviously getting ready for the arrival of DVD. Microsoft has outlined its support for the medium in future versions of Windows. Its new standard, Universal Disk Format (UDF), should make it simple for manufacturers to build device drivers. And Compaq has already promised to include DVD drives in its product range by the end of the year.

The Japanese have big plans for DVD, disguised as outlandish cartoon strips.

What is DVD?

DVD, or Digital Versatile Disc, drives are based on new blue laser technology. These lasers have narrower beams of higher frequencies than the red lasers found in contemporary CD-ROM drives, so they can read much more tightly packed data. The drives will initially be aimed at the home cinema market, where the picture quality they provide easily outshines VHS and LaserDisc technology. But with a storage capacity of 4.7Gb (that's 133 minutes of MPEG-2 standard video) they'll soon revolutionise PC games and multi-media too. DVD players are backward-compatible with CD-ROMs and by the year 2000 they are expected to make up around 10% of the audio CD player market.

SMASHING

Telstar's Wrecking Crew sets a new pace

Screamer 2 has about 800 polygons on screen at once. Wrecking Crew's got 3000 – and at three times the speed," claims Wrecking Crew's lead programmer Steve Pearce. He's co-director of UK based Quickdraw, which is developing the game for Telstar.

Wrecking Crew is a 3D hot rod racing game. "In essence, Mario Kart 64 was our model," says Pearce. "Obviously, we added extra subtlety to the driving model and the further 3D detail of games like Ridge Racer. But we definitely wanted it to be fun."

This commitment to entertainment has created a quirky ride. Gasp as you lean out of the window to let off your

Uzi. Swoon as your pedals control a game of Space Invaders on a passing bill-board. There are five tracks the size of central London for starters. "We've got about half a million polygons per map. And we give you total freedom to go wherever you like. There are roundabouts, forks – although it's laps based, you must find your own way around," says Pearce.

Quickdraw says its engine can handle 3000 polygons on screen at

60fps on a P166MHz. How? "Basically, the secret is it's been written properly," Pearce boasts. "It's all written in pipelined code for the Pentium. There's not a line of C in our engine." Unusually for a PC game, *Wrecking Crew*



Lady Bird is one of the nastiest drivers in *Wrecking Crew*, with screams and mace spray.



Quickdraw has included over 100 road side objects. Hit a tyre stack and the wheels bounce.

Crew boasts split-screen head-to-head racing and there's also a network hunter-killer deathmatch mode. According to Pearce, *Wrecking Crew* should be available by March.

"Everything's written, we're just working on the gameplay. We want you to keep learning the more you play it – to keep that subtlety."

Sisters are doing It

Barbie heads the charge as women storm the PC

After 15 years fidgeting on the sidelines, females are finally switching on to the PC. Startling evidence was provided last month, when sales of *Barbie Fashion Designer*, by Mattel Media, outsold *Command and Conquer: Red Alert* in the United States. Over 200,000 copies were shifted, pushing total sales near to half a million.

Meanwhile a US survey by IntelliQuest queried 1500 randomly selected women who live in PC-owning households. Nearly seven out of ten said they had significant input in buying the computer. Almost half spent joint funds to buy the PC, with over a quarter splashing out on the machine themselves. And nearly half believe they got a raw deal from sales people when compared with men. The increasing adoption of PCs in the home, together with the Internet and a new techno-literate generation of young females is behind the upturn in female PC users.

Traditionally, computer games have been seen as either too violent or banal for females, or as simply not appealing to their interests. *Barbie Fashion Designer*'s success clearly parallels the popularity of the Barbie dolls. It enables you to design costumes for a virtual Barbie, with your own colour schemes and accessory combinations. When you've completed your outfit, a 3D Barbie takes to the catwalk to model it. The software is distributed in the UK by Funsoft for a price of £39.99.

The new market has also forced publishers to set their sights on older women. The *Elle Beauty Guide* and *Karen Mulder*, are new beauty and fitness discs from Grolier Interactive. The *Elle* disk includes chapters on skin care and perfume selection, whilst *Karen Mulder* offers personal hints on nutrition and losing weight. Both discs also cost £39.99.

Mark Stringer, Marketing Manager of JM Interactive, was responsible for launching *Barbie Fashion Designer* in the UK in the run-up to Christmas. "The US success of *Barbie Fashion Designer* shows that girls' software can succeed in a market previously dominated by games targeting boys," he says. "The first indications here are that the girls software market will be as big as the US."



Karen Mulder probably didn't get her good looks by playing NHL 97 all summer.



Barbie Fashion Designer. You can dress and undress her to your heart's content. Some boys even like it.

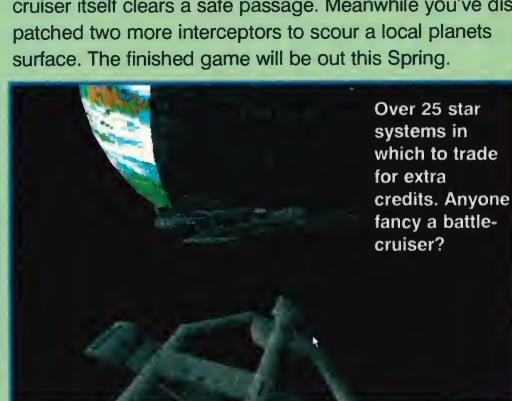
Do you really want it?

Battlecruiser 3000 offers a new spin through space

How many times have you scrambled from an aircraft carrier, but wished it was you giving the orders? Or flown to intercept alien fighters, but secretly wished you were Lorne Green back on the mothership? How many times, indeed, have you conceived of *Battlecruiser 3000*?

You've loved or loathed the advert, now play the game. Gametek's new space odyssey gives you a hulking space ship, with 75 men and four Interceptor attack ships at your disposal. Smaller craft can be dispatched with orders or you can take control of the ship directly. But maybe you'd be better off back on the bridge, thinking strategically and co-ordinating the big guns of the cruiser.

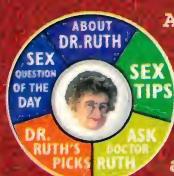
Battlecruiser 3000 is a huge game. As well as the 3D fighting, there's trading and exploration on offer. Many of the missions making up the overall campaign will demand complex planning. You might need to send your



Over 25 star systems in which to trade for extra credits. Anyone fancy a battlecruiser?

BOOKMARK

Sometimes those warts and broken hearts are too painful or disgusting to bring out in public. But on the Net, anything goes.



ASK DR RUTH
Can you stomach advice on your technique from an octogenarian? Can you live without an animated sperm cursor?
<http://www.drruth.com/>

DANTE'S PIT OF ADVICE AND VIDEO PICK
Your moral dilemmas answered via celluloid. Got a problem? Maybe an early Coen brothers film can solve it.
<http://www.cybermad.com/culture/dante/dante.html>

DORIA: EVERYTHING ABOUT SEX
Advice for the Net's lovelorn and clapped out. DORIA believes a sick heart can only be cured through sex.
<http://www.personal.u-net.com/%7eshmid/englishm.htm>

LOVING MORE
Is less than three boring? This page thinks so. If you feel monogamy is monopolising your life, here is the page for you!
<http://www.lovemore.com/>

ASK DR TRACY
Sensible staid advice from a good old middle American gal. Great if your mother's unavailable in an emergency.
<http://www.loveadvice.com/>

Directory

Watch for the new look .net
Directory - out soon.



THE WORKS IN BRIEF

HEAVY PACKING

IBM has developed a new hard disk drive which stores three times as much data as today's best models. According to IBM, the drive's five billion bits per square inch is equivalent to 625 full-length novels. But hold those creative juices, it won't be available for at least five years.

TIDY UP

Data Becker claims its new PowerCleaner is the most thorough uninstaller on the market. In its own tests, it found PowerCleaner removed more than twice as many old, useless files as CleanSweep, its nearest rival. It costs £24.95.

NEW VIDEO EDITOR

Video editing should be cheaper and easier with the miroVIDEO DC10. At £299, it's pitched squarely at the home video and wedding footage market and comes bundled with Ulead MediaStudio, enabling you to apply a mass of special effects to your gran with ease.

EASY CLIPPING

Photodisc has just made life easier for designers. Every image in its Object Series includes built-in clipping paths. These enable you to extract an object without having to clip around all its edges.

RAY DREAM UPGRADE

"If you want slick 3D effects, you can either go to Hollywood and hire a big expensive special effects house or get Radical F/X for Ray Dream Studio," says Dave Greenlaw, a 3D illustrator from Los Angeles. The extension for Fractal Design's leading 3D package costs £117.

VIRGIN TRIAL

US Robotics has started bundling free trial software for Virgin Net with its Sportster and Courier modems. Virgin Net Marketing Director Martin Keogh says: "This gives modem buyers an ideal opportunity to try our new service, and be amongst the first to take advantage of 56Kbps technology."

COREL CORRECTION

Our Works section last issue featured a review of Corel Mega Gallery, which contained some incorrect information. This clip art package is available from Channel Market Makers 01703 814142. The correct price is £59.95.

PALMS DOWN

US Robotics has slashed the price of its award-winning Palm Pilot. The Pilot 1000 now costs £189, down from £249 while the Pilot 5000, which has more memory than its sister, is £70 cheaper at £229. The Pilot is a shirt-pocket sized PDA which offers hand-writing recognition and can instantly interface with your PC.

VIDEO SQUEEZIE

ClearVideo claims its new compression routines will revolutionise digital video. It offers massive compression without undermining quality. It works with data rates as low as 28.8Kbps. It costs £649.

SERVICE TIPS

How to find the best Internet Service Provider

Sometimes it seems there are more Internet Service Providers (ISPs) available than there are Web sites. But which offers the best deals? With most offering the same basic features – 24 hour access, a unique email address – you'll need to look carefully at the fine details. The DTI's Information Society Initiative suggests you ask the following questions...

Does the ISP offer local Point-of-Presence?

Local POPs enable access to the Internet at the price of a local call. Without this service, phone bills might soon soar.

Do you need access to on-line services, such as business databases?

If so, you might be better off with an on-line service provider which offers general Internet access, such as AOL or MSN, rather than an ISP.

What speed of access does the ISP offer?

The speed of access determines how fast it will take to get data from the Net. Most ISPs offer connections at 28Kbps. Some have faster ones at 33Kbps – great if you've got a faster modem – but avoid any ISP offering speeds less than 28Kbps. Also, new x2 technology from US

Robotics and others will need the support of your ISP to work.

What software package is offered as part of the description?

It is important to ensure that the ISP offers industry standard software. It should work on your PC without any modifications.

How many email accounts are provided?

If you plan to get accounts for all members of your family, you might have to pay more. Find out whether you can get all the accounts you need at the start – it could prove cheaper long-term.

One leading ISP, however, has hit out at the DTI's tips. Ben Knox, MD of Direct Connection, says: "This is typical of the advice given to both individuals and companies on choosing an ISP. But someone who needs to be told to ask these questions is going to need patient customer support." Customer service should be top of the list, he says. "However well-meaning, they are doing a disservice to new users by leading them by the nose to ISPs who are not necessarily skilled in the very support which they'll need to get the most out of the Net."



Choose an Internet Service Provider who cares, says Direct Connection's Ben Knox. And boy, does he care.

KICK THE HABIT

Gameplay comes first in Anco's new footie game

Maxis is striking into new territory with Kick Off 97, its new football game developed by soccer specialists Anco. With Sim Golf released last month, Kick Off 97 is further evidence of Maxis' determination to diversify into the sports sim section of the games market.

Long term games players may recall Anco's classic Kick Off 2 on the Amiga. Since then, the football market has moved away from Kick Off 2's frenetic gameplay to realistic yet sluggish 3D players. But Kick Off 97, according to Anco, heralds a return to fine midfield argie-bargie. The firm even



Kick Off 97 will need to offer something pretty special to score in the congested footie market.

includes a 50 frames per second retro 2D option.

There's no visual sacrifice in 3D mode, however. All the players are based on the silken forms of Arsenal's Ian Wright, Patrick Vieira and David Seaman. To further tempt you, Kick Off 97 boasts over 330 teams in the various leagues with exactly 5322 players. And there's three hours of commentary by TV's Jim Rosenthal to put you off.

Anco has had a rocky time since Kick Off 2, but from our initial kick-about we think Kick Off 97 shows a return to form. We'll find out for sure in March.

THE CHARTS	
Top 10 selling PC CD-ROMs	
1 (-) Command and Conquer: Red Alert	Virgin
2 (-) FIFA 97	EA
3 (1) Flight Sim Win95	Microsoft
4 (-) Tomb Raider	Eidos
5 (2) Rally Championship	Europress
6 (5) Formula 1 Grand Prix 2	Microprose
7 (6) Champ Manager 96/97	Eidos
8 (9) Screamer 2	Virgin
9 (10) Theme Park	GTI
10 (-) Discworld 2	Psygnosis

EMAIL GOES ON AIR

TV signals to transmit Internet information

The TV and the PC are converging. Tomorrow's digital TVs will come with much of the same hardware as your PC. New broadcasting methods are set to exploit the spare capacity of TV signals to transmit email, faxes and even paged messages.

A Californian company, Datatext and Satellite Superhighway, claims its new A-Mail system will lead to cheaper and easier communications. A-Mail broadcasts digital data along with TV signals, removing telephone and Internet access charges, as well as the threat of Net congestion. As well as email, it will be possible to send voice messages, which PC owners can receive as audio attachments. A-Mail is expected to be particularly popular in the developing world, where decent phone lines and local Internet access are in short supply. To receive A-Mail, a special chip will be required.

Microsoft has also announced plans to exploit the television signals. Together with Intel, it has already developed Intercast (see PC REVIEW, Issue 61) which will send Web pages to accompany relevant TV shows. Now it's focusing on the ability of the TV broadcast medium to deliver software and content without Internet bottlenecks or dropped lines.

The main advantage of these new technologies is that they can reach multiple recipients with no extra costs. There has been no word on how much A-Mail will cost the average user as yet.

The Wired Home

With TVs turning into PCs and PCs receiving television signals, you might wonder what's next. Washing machines that double up as hard drives? Windows 95 for pets? Or, more likely, a central home computer system that manages all your email, television and Internet reception, your heating and your shopping lists? Find out next month in PC REVIEW, when we go behind the doors of the home of the future. Put that loft extension on hold!

HEY GOOD LOOKING

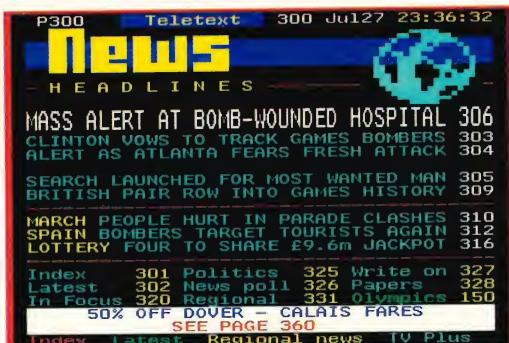
Your PC needn't look like a filing cabinet. Not when manufacturers are finally bringing home PCs into line with other consumer electronics to produce new, swanky looking machines.

Consider, for example, IBM's new Aptiva S series. Instead of square white boxes we've got matt black curves and mini-towers, with a monitor boasting built-in speakers and a microphone. A separate box holds your CD-ROM and floppy drives, which rise up and out with a whir when needed. Yet the Aptiva S models are no bimbos. Top of the range is a 200MHz MMX processor, while all the machines come with 16Mb of RAM, 2Gb hard drive and a 3D graphics card.

Similarly, Compaq's new Presario 1030 is another weighty yet attractive contender. What's interesting about the Presario 1030 is that it's the first portable aimed at the home market. Although it's a little too heavy for life on the road, it's perfect for moving from room to room and it looks the part too.



With its sexy design Aptiva S series will have your widescreen television sulking in the corner.



A-mail will be broadcast in a similar way to Teletext. Instead of a modem, you'll need a television to receive it.



No connection charges or Internet slowdown, but A-mail will require a special chip inside your telly.

WANTED CD-ROM EDITOR

Want to join Future's rapidly expanding CD-ROM design team making interactive promotions for our market-leading range of PC magazines, including PC REVIEW? You will be technical-minded (know your SCSI from your PCI) dynamic and innovative, and determined to explore the world of cover-mounted CD-ROMs. You should have a working knowledge of Visual Basic, Director, sound editing and be able to strip and rebuild a PC in under 30 seconds!

We offer the opportunity to work in one of the most exciting and rapidly growing areas of the leisure magazine industry. Based in picturesque Bath, Future Publishing Ltd. has grown over the last 11 years to become the fifth largest consumer magazine publisher in the UK. Future offers an attractive package including profit share, health scheme, subsidised pension plan, a competitive salary and the chance to work with a young and lively team.

Send your CV and covering letter to Ali Griffin at Future Publishing Ltd., 30 Monmouth Street, Bath, Somerset, BA1 2BW. Alternatively, you may apply by email to personnel@futurenet.co.uk.

To supplement your application, please send in any relevant examples of your programming and/or design work.

NEWS CONTACTS

AA	01256 492880
Bullfrog	01483 579399
Compaq	0181 322 3000
Data Becker	01420 22707
Direct Connection	0181 2970300
Eidos	0181 780 2222
Europress	01625 859333
Fractal Design	01756 704040
Fujitsu	01344 475555
Funsoft	01782 566511
Gametek	01753 854444
Grolier Interactive	01865 264800
Intel	01793 403000
Interactive Magic	01344 409399
ISI	0345 152000
Macmillan	0345 697008
Microsoft	01734 270001
Mindscape	01444 246333
miro	01494 510250
Olivetti	0181 785 6666
PhotoDisc	0181 255 2900
SpectraVideo	0181 902 2211
Viglen	0181 758 7000

The Ultimate On-line Experience?

While Origin readies *Ultima IX* to take on newcomers like *Diablo* (reviewed on page 50), it's also launching its first foray into the world of on-line games.

Ultima On-line boasts everything that makes multiplayer gaming so exciting. You inhabit a realm populated by thousands of other people, as well as countless dragons, orcs, skeletons and so on. Team up with other players to chat, trade goods, form adventure parties or found bandit gangs to terrorise other players. *Ultima On-line* promises to be a dynamic game world. This means dragons will roam inland when food is scarce and the closed economy will lead to hoarding and raids affecting the price of goods. There's even a night and day cycle. To apply for a Beta version and get in while the land is young, head to <http://www.owo.com/uol.html>.



Ultima On-line goes into beta testing in March.





In the beginning...

THE HISTORY OF THE PC

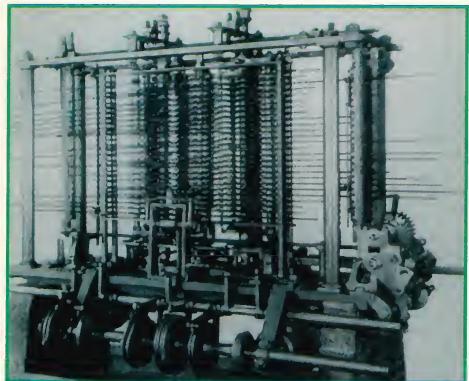
The first part in our new series tracing the evolution of your PC. Surprisingly, the ZX80 was not the first computer known to man...

Here to begin the PC story is almost as contentious as where it will end. Do we count the abacus? Essentially it's just an aid to memory. Equally, modern machines employ digital arithmetic, which instantly disqualifies the slide rule as a Pentium predecessor. Instead of arguing about definitions, we'll just take a whirlwind tour through the first 300 years of computing, starting in Paris in the mid-17th century.

It was then that the mathematician Blaise Pascal created the five-digit Pascaline, the world's first mechanical adding device. The Pascaline used rising and falling weights to calculate addition, and with sales soaring well into double figures, the Pascaline established the intellectual credibility of mechanical mathematics. Bizarrely, Pascal went on to invent the bus.

The next generation

Another mathematician, Gottfried Wilhelm von Leibniz, founder of calculus, 30 years later created



Babbage's engines were clearly inspired by the design of early cotton looms.

the Stepped Reckoner. With a fluted drum and crankshaft, it was able to add and multiply, handling products of up to 16 digits. But it was London's Charles Babbage who invented the world's most famous pre-computer. His Difference

Engine was a special-purpose calculator for tabulating the possible results of specific polynomials. Despite government funding, his prototype was never made.

Then in 1834, Babbage began to sketch his Analytical Engine. Most people agree this was the world's first computer design. The engine would use punched cards for memory and programming, had two accumulators and could perform conditional jumps. Working on 40-digit numbers, the machine could do an addition in three seconds, while multiplication might take 2-4 minutes.

The big developments of the next 60 years were mechanical calculators and, in the late 1800's, the punch card tabulators. In 1892, William S Burroughs made a fortune kick-starting the office calculator industry (most of which his son would later blow on Naked Lunches), and in 1935 International Business Machines launched the IBM 601 punch card machine. Crucially, it featured an arithmetic unit based on electronic relays.

Secret codes

It's difficult to untangle the development of the first electronic computers. Most of the critical work took place in Germany and the States, with World War II overshadowing and even destroying some early projects. But it also drove the pioneers on.

In 1943, Max Newman, Wynn-Williams and their Bletchley Park team created the Heath Robinson (named after the contraption cartoonist), a code-breaking war machine still shrouded in secrecy today. It's known the machine performed specialised routines using a combination of electronic and relay logic. The same team later created the Relay Interpolator. A programmable calculator, it read program and data from paper tapes and, crucially, represented numbers in binary to improve reliability. Events now moved rapidly. Back at



The Colossus has five paper tape readers, each operating at 5000 characters per second.

Bletchley Park, December saw the completion of the Colossus, a completely electronic code-breaker incorporating an incredible 2,400 vacuum tubes. In 1945 John von Neumann drafted a proposal for the Electronic Discrete Variable Automatic Computer (EDVAC). It's the first description of the modern stored-program computer.

Meanwhile, just as the war ended, Von Neumann's colleagues at the University of Pennsylvania, led by John Mauchly and Presper Eckert finished the ENIAC, the Electronic Numerator, Integrator, Analyzer and Computer. Incorporating over 17,000 vacuum tubes, the machine took up over 1000 square feet of floor space. It had 20 accumulators, several data buses and 104 12-bit digit registers. A card inputted data, and a card punch handled output. It could also be programmed, albeit by setting up a plugboard.

By 1947 Howard Aiken, who had created the first electromagnetic calculator in 1943, was confidentially predicting that the US would need a total of six electronic digital computers. Hmm. (OB)



Mauchly and Eckert, designers of the ENIAC, had their patent overturned in 1973, in part due to prior work by John Anastoff at Iowa University.

1645-1950

Next month in PC REVIEW

GRAPHICS IN THE FAST LANE!

Gearing up for the 3D revolution:
your essential guide.

- The best boards on any budget
- The technology explained
- The games you'll be gagging for!

BUYERS GUIDE:

REMOVABLE STORAGE

The death of the floppy disk and what to do about it!

WHICH COLOUR PRINTER?

The finest models for under £300

How to...

- Get images of anything on the cheap
- Play games on the Internet
- Make your PC go faster for free

EXCLUSIVE DEMO!

Descent to Undermountain



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TUESDAY
11 MARCH

FREEBIES

Over £1000 worth of giveaways!

Racing games, magic goodies and more Queen: The Eye stuff than is strictly decent. All for free!

FREE DRIVING GAMES

To celebrate the launch of its *Perfect Grand Prix* pack, Instant Access is making its first appearance in our freebies section. The new unofficial upgrade for Microprose's *F1GP2* features six new cockpits, a graphics and car performance editor, extra graphics drivers and stacks of other goodies to get more out of your favourite racing game - all for a measly £14.99. But that's not what Instant Access is giving away... it wants you to go out and buy that one. Rather, the company is offering the first 20 lucky readers picked from the hat on the March 20th closing date a free copy of its *Perfect Racing* compilation. The bundle includes *Cyclemania* and *RAC Rally* and normally sells for £19.99. To claim your free copy, simply send a postcard to:

PC REVIEW Freebies, Instant Access, The Technology Park, Colindene Lane, London, NW9 6DU.



Win a Perfect Racing bundle to celebrate the launch of Perfect Grand Prix.

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Keith Fields shows you how to do a rope trick.



IN THE WAKE OF QUAKE

With a clutch of new games vying for Quake's gaming crown, we look at the hottest contenders and talk to Id about the implications of Quake's success and exactly what Quake 2 holds in store...

When Id unleashed Quake on the world, history repeated itself. Just as *Doom* triggered countless tributes, cash-ins and worthy successors, so *Quake* has become the benchmark for a whole new genre of games to reach for. The hope is that shoddy rip-offs will be absent this time round, with the game instead inspiring other developers to launch their own idiosyncratic 3D experiences. Certainly the time it takes to create a game featuring gloriously solid polygon-generated creatures in a richly detailed world is far greater than that needed to code a *Doom*-a-like. So it follows that any developer willing to go down this path will attempt to do more than copy Id's blueprint. Time will tell if this is what happens.

The Id story

One thing that has changed since the days of *Doom* is the perception of Id itself. A couple of years ago this

cocky firm was unstoppable. It seemed nobody could compete, such was its marketing suss, technological skill, and amazing flair for game design. Yet after *Quake*, lead designer John Romero left, disillusioned with having to design in overly familiar gameplay territory, trying to work with a game engine that was forever changing. Coupled with the departure a couple of years back of Id co-founder Tom Hall and the recent bowing out of Id's 'biz guys' Jay Wilbur and Mike Wilson, along with project manager Shawn Green, some feel that the time may be right for another development team to take the lead from Id. Id itself, however

has other ideas. "I'm not concerned that Romero's gone," says Id designer Tim Willits. "It might actually be the best thing that's happened to us." Romero's departure has prompted Id's team to change the way they operate, working to more solid game designs rather than

practically making it up as they go along. As Tim adds: "We've got Kevin Cloud [project manager] and Adrian Carmack [art]. They're incredible guys. And we have John Carmack [ID's technical wiz], what else do we need? He's the genius behind the company!"

Quaking all over

The first fruit of the new Id team's labours will be *Quake 2*. Willits is confident it will enable Id to stay on top. "I honestly believe we're going to surprise people," says Tim. "We took some time off to sit down and really think about what we want to do – that's fun, that players will enjoy. That alone was a first for us. We've always just waded right in. This time we wanted to take the time to design something cool. The entire development team is working on the *Quake 2* design, and we've planned out all our levels and episodes beforehand. *Quake* was four episodes of goofiness. This will feel like one game."

All the new level and graphic styles, and a whole new range of monsters and



Watch for Rogue's Quake add-on pack, Dissolution. It's from the firm that made the Strife.



It's behind you, love. Deathtrap Dungeons three-headed dragon threatens a swordgirl.



15 more levels of excellence with The Dissolution Of Eternity Quake add-on.



Four character classes will add to the variety to be found in Hexen II.



Quake with Star Wars imagery? That'll be LucasArts' Dark Forces 2: Jedi Knight.

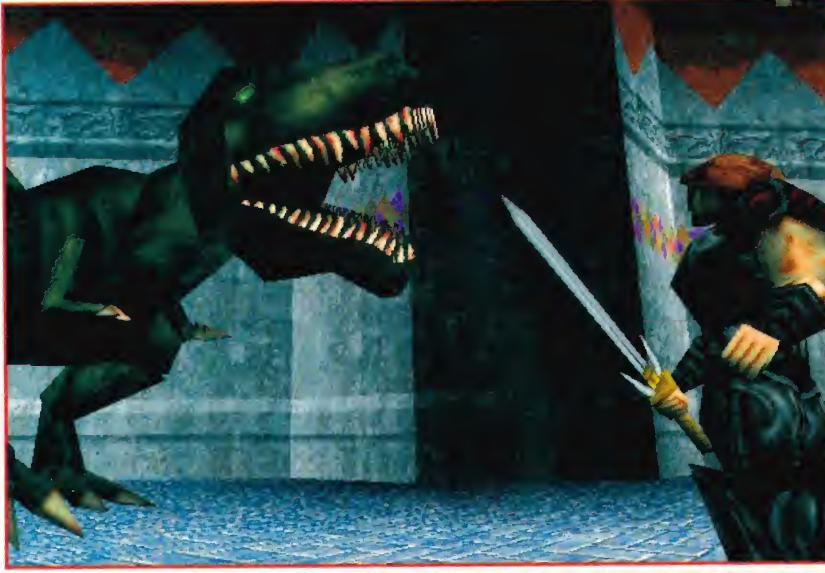
weapons are promised. The medieval content will be toned down, with a return to Id's beloved science fiction horror style. Don't expect many technology changes, however. "We're going to try to improve the AI and the physics but that's about it," reveals Tim. Id is addressing the critics who complained that *Quake* only really worked best in multi-player mode, though.

"We're going to refocus on single player fun. We want to try to get back to what made *Doom* so successful - the action-packed intensity. In *Quake* you felt scared all the same, but in *Doom* you felt like a superhero. We want to return to that," he continues.

And because of the anticipated power of PCs a year or so down the line, *Quake 2*'s design will feature bigger levels and more monsters on screen. As with *Doom*, the emphasis will be very much on slaughtering hordes of monsters. "That's the way we like it!" laughs Tim.

Licence to kill

And then of course, Raven is set to use the *Quake* 3D engine for *Hexen II*. As with *Heretic* and *Hexen*, this will add a role-playing slant to things, with players choosing from a range of four character classes, each with five unique weapons (all of which can be powered-up). 30 levels are featured, with some wonderfully evocative decoration and set-pieces. Indeed Raven is going all out for atmospheric effects, and has said that, "Lightning flickers through the clouds, rain drops fall from the heavy skies, and torches



Based around Ian Livingstone's role-playing system, Deathtrap Dungeon has been likened to Tomb Raider with swords. Sounds great.

flare in the depth of the night." The ultimate goal is to kill the last of the serpent riders, which once again means plenty of swimming and flying as well as ground-based combat. The full roster of monsters has yet to be revealed, but expect several new fantasy-style nasties when *Hexen II* arrives some time in the summer.

A new developer by the name of Valve Software has also apparently gained the rights to work on games using Id's *Quake* system, the first of which is currently underway. Dario Casali has been hired to design the levels. "The game is going to be set in an abandoned missile base, but not one on this planet," he says. "We're trying to include a mix of first-person action and graphic adventure-style puzzles, using objects, opening boxes and so on."

A range of around 40 creatures is anticipated, with a similar number of levels. "We've got some very impressive monsters," says Casali. "They are composed of at least twice the standard number of polygons, and the actual texture resolutions are double those used in *Quake*." Which should all mean some scarily effective cannon fodder, when the game is published near the end of the year. Valve has yet to name a publisher, but Microsoft has been mooted.

It's *Unreal*, *Prey* and *Dark Forces 2* which some expect to topple *Quake* from its

position as best first-person action game, though. *Dark Forces 2: Jedi Knight* is very much a natural progression from the original. Where the first *Dark Forces* mirrored the 3D system of *Doom*, so this sequel follows *Quake's* lead, utilising 3D polygons for the various enemies. It's the *Star Wars* setting which really attracts, however, the familiar shapes of the AT-AT walkers cropping up, as well as a number of game twists which play upon the concept of Jedi and the Force. The plot has the player attempting to thwart seven Dark Jedi from unlocking the powers of a hidden Jedi burial ground, with the opportunity to follow either the light or dark

side of the Force to gain extra powers, such as telekinesis, improved jumping, healing and the ability to see through walls.

Use the force to get the flag

Network options in this latest *Star Wars* epic include single or team modes, with a capture the flag set-up contrasting with the story-based single-player game. "The multi-player features in *Jedi Knight* are exactly what *Dark Forces* fans demanded the most in a sequel," says co-Project Leader Justin Chin. "In addition, we've incorporated cinematic live-action cut-scenes and the ability for players to use light-sabres and the Force."

Less familiar, but just as eagerly awaited is *Prey*, from Duke Nukem publishers 3D ►

DISSOLVED
While you're waiting for *Quake 2* and *Hexen II*, you might try *Dissolution*, a *Quake* add-on pack by Rogue. "The player starts in a dark Medieval world more ominous and more threatening than anything they could fathom," says Jim Molinets of Rogue. "Ultimately the player will discover that *Quake* has warped history to suit his evil ends. In this world, *Quake* is worshipped as a god. Oppression and terror are the tools to ensure his evil rule throughout eternity. That's a simple story for an intense experience. It's an all-out fight for your life and your sanity. It's *Quake...and a whole lot more!*"

Essentially it's a 15-level romp through two episodes: Hell's Fortress (which ultimately pits the player against the General of *Quake's* Wrath army), and The Corridors of Time (which takes the battle into the past). Five new monsters appear, including a dragon, electric eels, phantom swordsmen, the floating skeletal Overlord, and his minions the Wrath. The choice of weapons is also expanded, with armour-piercing lava nails, multi-grenades, multi-rockets, and a plasma gun to play with. Even hazards and power-ups have been tweaked, with the introduction an anti-grav belt, a power shield, slicing pendulum blades, lightning shooters, and even earth-quakes. "The levels have been designed with both single and multi-player mind and the playability shows it, adds Jim. It will be out in March.



Epic's Unreal. Great lighting and imaginatively created monsters abound.



IN THE WAKE OF QUAKE



Being able to waggle a light-sabre in Jedi Knight will drive Star Wars fans wild.



Motion capture has been used to animate Into The Shadows' various in-game characters.



A dramatic scene from Deathtrap Dungeon. Perhaps the fire effect needs a little work.

SCOURGED

Hipnotic's official Quake pack, *Scourge Of Armagon*, features 15 new levels, plus one extra death-match arena. Two new monsters have been added, along with three new weapons. Hipnotic's Jim Dose says the pack will try "...to make a more interactive environment without getting away from the pure action of Quake."

The premise of this one involves a weapon research facility set up by the minions of Quake, where a time portal is being used to bring more forces through. The objective is simple: to get into the portal, find its power source and shut it down. As with Rogue's pack, *Scourge Of Armagon* will feature a brand new soundtrack. "All the details haven't been finalised, but we're pretty certain that it will include a song or two from the Chemical Brothers," Dose told *Net magazine* Webslice.

Expect *Scourge Of Armagon* in April.

► Realms. The loss of several key team members has delayed this one, but the firm is still confident that it has a single and multi-player sci-fi experience capable of beating Quake at its own game. The story sees the player abducted by aliens and challenged to survive in strange environments, fighting even stranger creatures. Six skills feature in the game, which provide extra powers for the player and act as themes for various areas. "There is a Temple of Might, and the inhabitants will be solely concerned with using force to wage war," says 3D Realms. "The environment will [have] heavy, oppressive architecture... to withstand the amazing battles that take place within it." It's claimed that *Prey* will feature soft-edged shadows, and mobile light sources within the game world. The enemies promise to feature a similar level of detail, with advanced intelligence routines which enable them to take advantage of environment features such as swinging ropes. Even the multi-player mode promises to push things that bit further, with virtually no limit on the number of players who can join in. "Multi-play will have our full attention, not just be a tacked-on after-thought," says programmer Mark Dochtermann. The only question now is when *Prey* will actually materialise.

It's the Unreal thing

Unreal, currently under development at Epic MegaGames, is another project borrowing heavily from Quake, attempting to surpass it in terms of environmental detail, graphical effects and network play. Looking far closer to completion than *Prey*, *Unreal* will support Intel's new MMX Pentium chips, upping the 3D system (which has clever lighting and dithering effects) from 16-bit colour to 24-bit.

Co-designer James Schmalz explains the plot: "The player is a prisoner on a prison transport ship which crash lands on a mysterious planet. The player soon learns that this planet is a graveyard of ancient ships and one of the recent crash landings belongs to a race of barbaric hunters known as the Skaarj. Fortunately the Skaarj's ship is almost functional and they are busy trying to repair the ship. The players' only way off the planet is to hack and blast their way across the planet's surface to the Skaarj's ship and use it as a way to escape the planet."



The promised dragons were missing from Quake, but there's a fair few in Hexen II.

In gaming terms this will allow players to travel over the planet surface, and enter buildings or catacombs, while multi-player games will see you battling it out in radically different areas of the game world. "The planet that the player is exploring is vast, with temples, crypts, castles, mines, and a multitude of crashed spaceships," explains co-designer and producer Cliff Bleszinski. "There is a huge variation in levels."

Epic is confident that the enemy intelligence routines and graphical effects will set *Unreal* apart from the competition. "One of the coolest graphical innovations is the dynamic coloured lights," enthuses Schmalz. "The volumetric fog is pretty awesome too, and storm cloud effects are fantastic. Oh, yeah and spot lights are an extremely impressive feature that no other game has. And MMX true

colour lighting is great. The true water translucency is really fantastic. Radial pulse lighting is a great effect. And... well I could go on and on, but you get the picture."

"Unreal's monsters are high on polygons and have extremely detailed skins, so they look twice as good as anything out there," adds Cliff. "Just look at them and tell me you wouldn't love to be gutted by any one of them." As for the enemy intelligences Epic has hired Steve Pulge, the creator of the Reaper Bot – widely regarded as the finest and indeed juiciest Quake add-on.

Be prepared, also, for a pretty unusual range of weaponry "There won't be a shotgun or rocket launcher," says Cliff. And, perhaps best of all, there will be a full world editor for the more ambitious gamers. But will *Unreal* be better than Quake? Cliff: "Can we stop the 'Quake Killer' talk already? *Unreal* will be much more than 'turn corner, blow up monster, hit switch, repeat.'

"We want to make this game the absolute greatest and we are not cutting corners," says Schmalz. "Only the best goes into *Unreal*."

Variations on a theme

Finally, we have two titles which, while operating in the same graphical arena as Quake, opt for very different game styles and viewpoints. Scavenger's long-awaited *Into The Shadows*, employs clever

3D light and shadowing effects and highly detailed and animated polygonal creatures to create a blend of beat-'em-up and traditional adventure. Whether or not such a marriage will prove successful is anybody's guess – beat-'em-up fans aren't usually concerned with such muddy factors as plot, after all.

Eidos' *Deathtrap Dungeon* is an action romp with a similar theme, but promises to be very different in play, with true role-playing nestled in the *Tomb Raider*-esque action. Paul Shepherd is team leader on the project: "What we've done is use a primarily third person game, in the same style as *Tomb Raider*. But because we've got a lot more combat in our game, particularly with ranged weapons, we've included the option to switch to a first person view. Rather than let players go down the *Doom* route, it's not possible to move around from this viewpoint, so it becomes necessary to choose it with care. Alternatively, if a player remains in third person view, the computer will automatically calculate the best enemy to aim for."

The game used a purpose-written 3D system, which includes a good approximation of real-time light casting. "If you fire spells down a corridor, they will light up the corridor," explains Paul. "And being a dungeon we can have areas looking quite gloomy – some even completely black – making it necessary to use light casting spells to show the way."

Paul acknowledges the echoes of Core's recent hit. "*Tomb Raider* has shown people a completely new style of game in many respects," he says. "*Deathtrap Dungeon* is another step along that road."

Ultimately, such a wealth of post-Quake titles can only be a positive thing, prompting a greater choice of better quality titles. A good game is a good game, regardless of where the inspiration comes from, or who coded it. As Id's Tim Willits says: "We don't consider anybody else out there as competition – it's only people who aren't in the industry that perceive things that way. We

really are looking forward to games like *Unreal* and *Dark Forces 2*." One company actually looking forward to playing games made by its direct competition might seem a bit strange. But then it must be quite easy to hold such an attitude when you've got something like Quake 2 in development. (MR)

Hipnotic's Quake pack, *Scourge Of Armagon* will have a new adventure scenario.



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Conquest Earth	29.99	Kingpin	12.99	PoE Gothic 486	14.99	Star Trek Generations	35.99			
Conquest Of The New World	30.99	Kings Quest 6	9.99	PoE Tour Golf 96 Gold	14.99	Star Trek Generations	35.99			
Crusader No Regret	28.99	Kings Quest 7	9.99	PoE Tour Golf 96 Greengrass	14.99	Star Trek Generations	35.99			
Crusader No Remorse	11.99	Lands Of Lore	13.99	PoE Tour Golf 96 Spanish Bay	16.99	Star Trek Generations	35.99			
Cyberia	12.99	Last Blitzkrieg	33.99	Phantasmagoria	25.99	Star Trek Generations	35.99			
Cyberjage	18.99	Last Bounty Hunter	27.99	Phantasmagoria 2	37.99	Star Trek Generations	35.99			
Cyberjage	31.99	Last Dynasty	9.99	Phenix Fighter	Call	Tactical Manager	9.99			
Dark Forces	12.99	Legend Of Kyndria	10.99	Pinball 93	Call	Tactical World Of Soccer	Call			
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Dawn Of Humanity	16.99	Lighthouse	31.99	PoE Gothic	9.99	Thief	11.99			
(Civilization 2 add on disc)	12.99	Links 3D6 Plus Courses	12.99	PoE Gothic 486	14.99	Theme Hospital	Call			
Dawn Patrol	10.99	Links Challenge	9.99	PoE Gothic V	14.99	Theme Hospital	Call			
Day Of The Tentacle	10.99	Links LS	33.99	Power F1	Call	Theme Park	9.99			
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Descent 2	31.99	Lord Edon	9.99	Quest For Glory Collection	23.99	Titanic Off Road	Call			
Descent 2	12.99	Links 3D6 Plus Courses	12.99	Power F1	Call	Titanic Off Road	Call			
Day Of The Tentacle	10.99	Links LS	33.99	Premier Manager 97	Call	Titanic Off Road	Call			
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Descent	32.99	Little Howies Great Word Adv	25.99	Psycho Pinball	12.99	Titanic Off Road	Call			
Descent 2	12.99	Londoner	9.99	Quarantine	9.99	Titanic Off Road	Call			
Descent 2	29.99</									

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**ALCOHOL INDUCED**

One of the reasons Rocket Science chose a bar room setting for its newest adventure game is the almost limitless potential for oddness and eccentricity afforded by such places. Let's face it, if you want to meet a nutter, you go to a dodgy bar. As Steve Meretzky explains: "It's certainly a setting that's appeared in a lot of movies and TV shows and books, and it's such a rich setting. Bars in general are such a fun environment, never knowing who's going to walk through the door and who you're going to run into – but especially in a bar with alien characters where you don't know what person you're going to run into, you don't even know what race you're going to run into. In this game you have 17 different races and just to be able to make up races, you're starting with such a blank slate and there are so many directions you can go in." The influences behind Space Bar include the Cantina in Star Wars, Quark's Bar in Deep Space Nine and numerous short stories.



This peculiar contraption is a toilet designed specifically for an alien anatomy. Whatever you do, don't stick your head in it.



This middle-aged plant wants you to relive her youth for her – it's all part of your quest to discover the identity of a murderer.



And this is what her world looks like. Unfortunately you're rooted to the ground and can't take a wander around.

INEBRIATED

Work in progress: Space Bar

Rocket Science returns, this time with a character-led adventure game set in a drinking establishment. Expect them to serve up a strange brew...

Nothing beats a bar when it comes to meeting engaging personalities. Sure, people in shops, restaurants and offices can be interesting for a while, but let's face it, if you want to rub shoulders with the exotic and the eccentric of this world, the best place to go is definitely a boozer.

While the bar room setting was perhaps perfectly captured by the American television series *Cheers*, the concept has now been taken to heart by Rocket Science in its soon-to-be-released adventure game *Space Bar*.

In almost every other respect, however, *Space Bar* couldn't be further from *Cheers* if it tried. Here, rather than argumentative New Englanders, the main characters are all aliens. Needless to say, these aliens are vital to the game. So crucial are these intergalac-

tic 'person'-alities that much of the game literally takes place inside their minds. And what peculiar minds they have.

So who are you?

You control a humanoid detective called Alias Node. A murder-kidnapping has taken place, and the culprit has escaped into the Thirsty Tentacle. Hot on the killer's metaphorical tail, you enter the establishment only to find it populated with aliens of some 17 different species.

Going in and 'rousting' them, James Cagney fashion, just won't work as a method of interrogation. Space oddities like these wouldn't take kindly to that approach. Instead, Node uses a technique called empathy-telepathy that allows him to get

inside the many heads of these creatures and relive their experiences. Thus, he can build up psychological profiles of them and find clues as to the whereabouts of the killer, lurking somewhere in the Thirsty Tentacle.

Flashbacks

"Each of those flashbacks is a self-contained game-within-a-game which has its own plot-line and puzzles and stuff, and is set on the home planet of whichever alien you're talking to," explains game designer Steve Meretzky, who is producing *Space Bar* for Rocket Science. Each flashback, Meretzky reckons, will take players between five and ten hours to complete and eight of them must be played through, in any order, before *Space Bar* can be completed. Working

Interview

Read our interview with *Space Bar* creator Ron Cobb over on page 7.

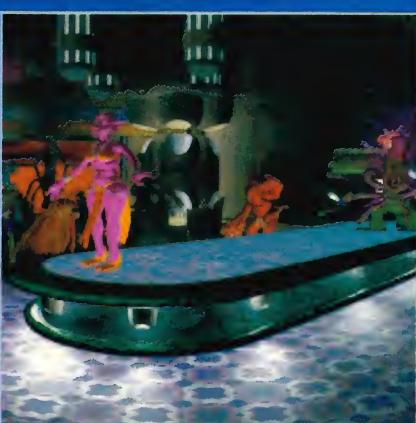
Here's how some of *Space Bar*'s weird alien species came into being...



◀ This is Ron Cobb's original sketch of Cilia, a member of the Triseck race. She seems to have put on the pounds over Christmas.



Now here's Cilia in rendered from, doing one of the special dance moves that drives the customers wild in the Thirsty Tentacle.



And finally we see her in action in the finished game. When she stops dancing Node will have to go over for a chat.



The bartender's a Zazzl. See what happens if you try to pull one of his legs. Do all those arms help him serve drinks faster.



The Zazzl's compound eyes show many images of the world. So will you when you get into the mind of one.



These might look like delectable Polynesian drinks, but they're really alien beings. So whatever you do, don't try to drink them.



Here's one of the original designs for the Silvraster, a friendly but dim character from the planet of Yzore.

alongside Steve Meretzky is Ron Cobb, a co-founder of Rocket Science and Hollywood production designer who came up with the Cantina aliens in *Star Wars* and also worked on *Conan the Barbarian*, *Alien* and *The Abyss*. It was Cobb who dreamed up many of the creatures you'll meet in *Space Bar*, sketched them out and decided what their minds would be like. He also drew a blueprint for the Bar itself. He has tried to make *Space Bar*'s aliens as mentally odd and physically diverse as possible.

"There are two characters who you flash back with that have a symbiotic relationship," says Meretzky. "One is this relatively intelligent but completely helpless creature and it's in a symbiotic relationship with this very big, powerful creature that has the intelligence of a turnip. One supplies the brawn and the other supplies the brains. In one of those two flashbacks where you play the helpless creature you can't do anything yourself other than examine things and look around. Pretty much anything that involves any physical manipulation – you can only do that by giving orders to the other creature."

Elsewhere, you take on the role of an insectoid creature called a Zazzl. Seeing the world in Zazzl-vision – the creature has com-

pound eyes and sees multiples of everything – it is your objective to move a giant Zazzl egg through a series of caves to a space port, thus helping launch the race to star systems anew. As a Zazzl, you also share in the swarm consciousness and thus can hear the thoughts of other Zazzl.

Another alien in whose mind Node will find himself is actually a plant. This time you're rooted to the ground and have to produce a fruit to prove to your mother plant that you're mature enough to leave the planet.

Then there is a race of alien gangsters. "Their hygiene is absolutely abysmal," Meretzky continues. "They have all these folds of body fat and they never bathe or anything. The way they reproduce is they produce all these little larvae that live in their folds of body fat and eat their own body wastes. When they're mature enough they drop to the ground

and begin feeding on their own. It's just a disgusting race, but of course, they run all the businesses."

Although everything takes place in the bar, that doesn't mean it's without varied environments. Certain areas within the



The game's aliens are based on sketches by Ron Cobb.

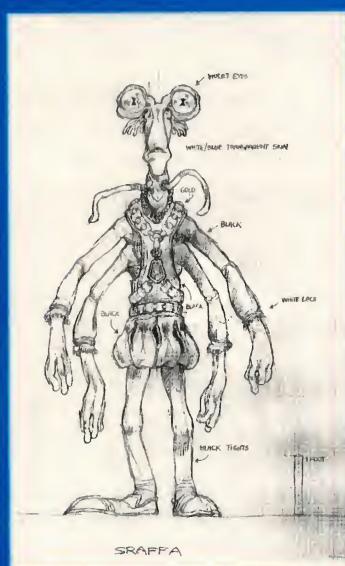
Space Bar caters to the needs of the various aliens. Wander around a bit and you'll find kitchens, eating areas, theme bars and a casino room. There are even toilets designed for the anatomical and hygienic needs of other species.

At one stage, Node gets his head stuck in a Sraffa toilet. He's only rescued when his bumbling partner yanks him free. The scratchy-voiced green alien doesn't spare the opportunity to mock Alias in the process.

Game for a laugh

While the humour and peculiarities of the game might represent some of its stronger selling points, ultimately Rocket Science hopes *Space Bar* will establish the company as a publisher of character-led adventure games. Previous releases by the company, such as *Wing Nuts* and *Cadillacs and Dinosaurs*, demonstrated high production values and were very imaginative, but were widely regarded to be lacking in real interactivity. Through its puzzles and characters, *Space Bar* is definitely juiced-up with plenty of the latter.

Just how effective *Space Bar* will be at re-establishing the Rocket Science name in the world of gaming, however, remains to be seen. Join us next issue when we amble into the Thirsty Tentacle, order a few pints from the six-legged bartender and try to get inside the heads of the other clientele. (GW)



This is how the Sraffa started out on paper.



And here's one in rendered form. Note his fashionable attire.



Finally we have Dwelf, a fine, upstanding example (around seven feet tall) of the Sraffa species. The Dwelf are super-intelligent and add emphasis to their conversations by flailing their neck tentacles.



THE MAIL

High scores, stupidity, VideoCDs and PC-related injuries...

TOMB

Right, I've just opened up the December issue and flicked to the review of *Tomb Raider*, read the review and thought 'yeah, looks like *Fade to Black*, but prettier'. Then I saw the mark. Ten out of ten. I mean, a ten for a game that is nothing more than a rehash of *Fade to Black* but with breasts. Alright it may be far superior, but a bloody ten? That's two perfect games reviewed in what, maybe the last four months. *Quake* definitely did not deserve a ten, the network version was superb but was let down considerably by the single player mode, which in my mind points to an imperfect game.

But I let that pass. Now, *Tomb Raider*, a game "Quake tried to be". To me that little quote signifies why a ten cannot be awarded, how long until we see a ten given to what "*Tomb Raider* tried to be"?

I have been playing computer games for 13 years and reading PC REVIEW since it was called *PC Leisure*, and as far as I can remember no game has ever scored perfect, in any magazine (except console titles). It seems that your reviewers are reviewing to please the publisher, not the gamer.

Although I could be wrong, but two years ago I questioned the awarding of too many nines to games. The standard of games is going up, but no game is perfect. Over the month's my opinion of the new PC REVIEW was becoming more positive. That's been set back only by the ridiculous giving away of marks to some undeserving games.

And now as my irritation turns to resignation I somehow doubt this letter will be published.

Anthony Curran, Co. Limerick, Ireland

Challenge accepted. We're printing your letter. We don't award games with high marks to appease publishers. We

award a game a ten because it is simply one of the best games you can play on your computer. There is no such thing as a perfect game – because the goal posts and standards are always shifting. Stop gazing around looking for everlasting perfection and instead enjoy games and play them with the passion they deserve. Like we do.

INCREDIBLY STUPID

The TurboCAD program that you gave away on your January issue only looks like a demo – not the full working copy as promised. Am I doing something incredibly stupid... or is it you?

Bob Saunders, Swindon

Well, it's not us! All the info you need to run our full version of TurboCAD is in the special text file, which you access via the CD REVIEW interface. The code to unlock the application is D080A. We always put as much info as we can into the disc menus – they're more than just README files.

TIME FOR TV

I just thought I'd better write to you after reading PCR 59 letters section. There was a guy who wrote in about VideoCDs and MPEG. For a long time, it seemed VideoCD was about computers, good MPEG cards and fast CD ROM drives, and some magazines (including PCR), reviewed and recommended much of the expensive so-called 'top kit' to readers. But few people mentioned devices dedicated to VideoCDs, the Sony VideoCD players.

Look, as far as I know, Sony is a much bigger name in video and audio entertainment than the MPEG card

manufacturers, and the quality is just far, far better.

The price of a player which can play both Video and Audio CDs and LaserDiscs will be about £500, and a smaller model (like a DiscMan) used for VideoCD will only cost about £300. Do you have them in the UK? The pictures are just so great that they can put the best MPEG cards to shame. I have seen pictures generated by Movie Master, Real Magic, Matrox, or Diamond 3D cards. They're poor. My point is that it would probably have been better to put the VideoCD player on top of your video and enjoy your own home cinema on your big screen TV with a remote control rather than moving your computer into your living room, switching it on, plug in all the wires, click on the mouse, watch, then unplug all the wires and shift your dear computer back to your study or something.

Hua Tao, Melbourne Australia

Dedicated VideoCD players are ultimately just a stop gap

technology. If you're serious about your media and want to move up from VHS, then LaserDisc is the better option. If you're patient, however, then we're backing DVD. VideoCDs are certainly cheap, but on a bigger screen, the quality just isn't there for home cinema use. MPEG 1 is still the hot bet for watching movies on your PC even though DVD-capable PCs have already been launched in Japan.

TWEAK IT

In the Q&A section of the December issue you refer to TweakUI which can apparently be downloaded from Microsoft's Web site. However, having searched the site I cannot find any reference to TweakUI – can you help please.

Philip Lloyd, via the Internet

It's part of PowerTools. We'll put it on our next CD, on sale March 11, 1997.



If you have a point to make, write it down and send it to us at the address shown above, or e-mail us at pcreview@futurenet.co.uk.

LETTER OF THE MONTH

SORE POINTS

Yours has got to be the only computer magazine I have read through, rather than skimming over a couple of feature articles and then filing it in the bin. Either I'm going barmy, or what you write is worth reading regularly – wibble, wibble. Seriously though I'm writing because you seem to be on the ball.

I have a friend with a genuine RSI problem that could well end his career unless he can sort it out. He is an able mechanical engineer and therefore would normally use CAD for a large part of the work-

ing day but using the keyboard and especially mouse clicking actions cause him great pain after a while and rapidly stop him from being able to flex his fingers. (The tendons rub their covering sleeves, irritate them, causing them to swell up. Hence they are very painful and prevent flexing).

Please can you recommend any voice to text packages he could get? (I'm sure he can learn an American accent if necessary!) And especially, is there a solution to the mouse button problem he experiences, since the vast number of CAD applica-

tions (and other computer stuff) are driven by menu and point-and-click systems.

James Dalley, Essex

Our timing couldn't have been much better. Over on page 102 we have a guide to using your PC safely and avoiding eye and muscle strain. Then, if you turn to page 93, you'll find a review of VoicePad Pro, one of the main voice recognition packages available. We hope we can be of some help. Wish your friend all the best.

THE GREAT DEBATE: NETWORK COMPUTERS

Are they the future of the PC, or are they already past it?

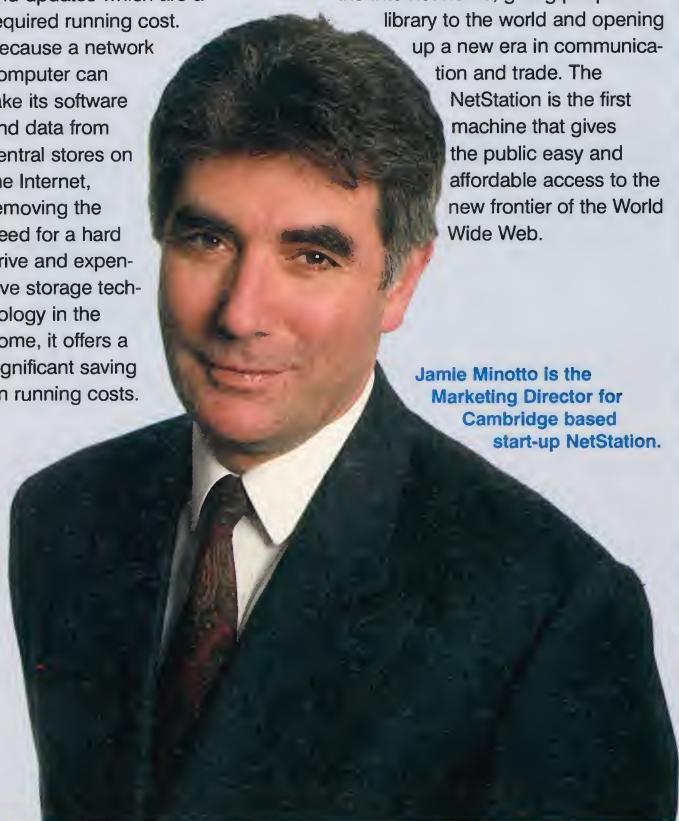
We've featured a few news articles recently on network computers. While a variety of models are coming out - from TV set-top boxes to office machines - all network computers all have one thing in common: their advocates claim they'll replace the PC box in the home and in the workplace. Meanwhile, opponents maintain they're just not up to the job. Here, two experts put the cases for and against network computers.

THEY'RE WIRED

NetStation will be the first network computer on the market when it's launched in the UK this spring, and will be a massive boost to the computer industry. Designed by our British team, the book-sized box will plug into a television and a user-friendly NetStation interface will guide users through full Internet access. It is incredibly simple to use.

The network computer will make the Internet affordable to many millions of people. It will offer email, the World Wide Web, home shopping, banking, games and the other Internet services, but at £349, NetStation will be around a third of the price of a PC.

Network computers are the future of home computing because potential buyers are increasingly wary of the expensive maintenance and updates which are a required running cost. Because a network computer can take its software and data from central stores on the Internet, removing the need for a hard drive and expensive storage technology in the home, it offers a significant saving on running costs.



Jamie Minotto is the Marketing Director for Cambridge based start-up NetStation.

The TV set-top box and a £14.95 monthly subscription charge will be an attractive proposition to families whose primary computing need is email and Web browsing.

Because NetStation is designed with the domestic consumer in mind it has functional advantages. NetStation will offer two control devices: a TV-style remote control and an infra-red 'lap top' keyboard, which will allow you to access the Net from the comfort of your living room sofa.

NetStation means the Net will be just a click away, so email for everyone becomes a reality. It's cheaper, faster and far easier to use than traditional mail. And a big plus is how easy it is to respond to incoming mail. All you do is write and click - and the letter is on its way.

Network Computers are bringing the Internet home, giving people a library to the world and opening up a new era in communication and trade. The NetStation is the first machine that gives the public easy and affordable access to the new frontier of the World Wide Web.

THEY'RE TIRED

There has been a lot of interest over the past year in the network computer, sometimes referred to as the \$500 PC. The idea of an inexpensive multipurpose PC appeals to many. However, providing users with a stripped down PC that relies for the most part on running its applications over a network is not the answer. By doing this you are simply removing the power and flexibility offered by today's desktop PCs.

When you take a good look at what is being proposed by the advocates of the network computer, you are in fact being offered a technology which is taking a leap back in time rather than a step forward. We have already experienced the days of mainframes and dumb terminals so we need to ask ourselves why anyone would even consider investing in this technology.

If people believe that the network computer will have a lower purchase price than a desktop PC, then should think again. The network PCs announced to date are of a similar price to current desktop PCs. Furthermore, the infrastructure to support the network computer does not currently exist. You must take into account the

170 million PCs which have already been installed world-wide.

It is unlikely that the network computer will ever become mainstream, but it will be accepted in some niche markets where the technology can be applied. What is more likely to happen is that current desktop PCs will continue to evolve and become even more powerful. Intel has recently launched its Pentium processor with MMX technology improving multimedia on the PC, 32-bit applications have taken off in the past year making the PC more powerful and robust, and the NetPC has recently been announced by Intel and Microsoft which will make current desktops easier to manage across networks and still allow them to sit within the existing framework.

PCs are changing all the time as we strive to improve their capabilities and functionality. The increase in popularity of the Internet is also changing the computer industry.

While change is necessary, I believe that reversing a 20-year industry-wide trend in decentralisation is rather drastic. We must continue to build on the open standards we have today.

Phyllis Brady, Dell's Product Marketing Manager.



CD-ROM DRIVES

THE PCR HANDBOOK

CD-ROM drives are a useful half-way house on the road to a fully working, low-cost removable mass storage device. And they belt out a right nice tune too!

You can now buy a quad-speed CD-ROM drive for £40, and it's a bargain (though anything slower isn't a bargain at any price). The fastest CD-ROM drives available now are 12 times faster than the original models, which transferred data at 150K/s. This takes them up to a theoretical 1.8Mb/s – faster than many hard drives.

Most current CD-ROMs can share the IDE (Intelligent Drive Electronics) interface with your hard drive. Alternatively, they're available for connection via a SCSI (Small Computer Systems Interface) card.

Currently, you can't boot your PC straight from a CD-ROM because the current controller software uses outdated transfer protocols (the reasons are very technical), but the latest generation of PC BIOS chips (the ROMs which load the operating system) do have this ability, so expect this feature in PCs next year.

Speed limitations

Although the latest CD-ROM drives can transfer data fast they can't find it easily. It takes 10 to 20 times as long to find data on a CD-ROM as it does on a hard drive, so

skipping about is slow. This is because CD-ROM drives use a technique called constant angular velocity. The read head which contains the photocell pickup and the laser emitter must traverse the same length of track in the same time or confusion sets in.

This is different from hard drives, which use constant angular velocity and can therefore read data faster nearer the centre of their internal platters. All of which means a CD-ROM drive must spin faster as it moves the read head toward the centre and slow down as it moves out while a hard drive spins at a constant speed. It also makes it more difficult to locate a specific place on the spiral track.

The other major CD-ROM limitation is the inability to write to them – a situation which will change next year when 'phase change' discs and drives appear.

Willing slaves

CD-ROM drives should be attached to a separate IDE port – you can attach an IDE CD-ROM as a slave drive on the same cable as your hard drive but it will prevent Windows from using 32-bit disk access on the hard

drive. Using a separate port for your CD-ROM drive is only possible if your PC has two ports complete with EIDE (Enhanced IDE) BIOS support. All new PCs offer this, but older ones may need a BIOS upgrade.

You can, if you want, attach two CD-ROM drives to your second IDE port – an attractive option given the current low price of CD drives. However, one will then have to be configured as a 'master' drive, whereas CD-ROMs are supplied configured as 'slave' drives. Reconfiguring a drive is easy enough, but you'll need to contact the maker to find out how to do it.

Part Two



Pentium-based PCs can even make a decent job of playing VideoCDs based on the MPEG-1 digital video format.

Bigger and better

The next generation of CD-ROM uses DVD technology, which relies on bluer lasers (current CD-ROMs use infra-red lasers) to produce a more sharply focussed beam. This means you can use smaller pits on the disc and a shallower spiral angle. Combining these two techniques produces a disc with a capacity of around 4Gb.

Naturally, though, you'll need a new kind of CD-ROM drive to read these large-capacity discs with – a more expensive one.



Oddly, one of the more common uses for a CD-ROM drive is to play music.



PhotoCD format is popular with graphics artists if not with happy snappers.



Even top multimedia titles account for relatively little CD-ROM usage.



The PC's CD-ROM drive can cope with many different disc formats.

Five Things You Never Knew About CD-ROM

1 Philips invented CD technology in 1980. The original specification was laid down in the Red Book. Later additions to the standard were in different coloured books until the White Book combined most of them.

2 The track on a CD – whether it's an audio CD or a CD-ROM – forms a continuous spiral up to three miles long. The closest analogy is that of the old vinyl LP (but without the scratches).

3 The more data your PC reads from the CD in one go the faster it needs to be. This is because the software driver handling the data flow for the PC can end up consuming all the available processor power. Some drivers with early fast CD-ROM drives using proprietary interface cards brought the PCs around them to a halt.

4 A CD's data capacity is still measured in minutes as there are a number of different ways

of storing data on it. This means the data capacity depends on the way the data is stored.

5 CD-ROM stands for Compact Disc - Read Only Memory. The underlying format is still the same, though as on an ordinary audio CD.

NEXT MONTH
Part three of the PCR HANDBOOK will detail your PC's memory chips.

The last thing the 800 billion horrified Tauran viewers saw on their Live Video Link were the alien markings on the container...

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ANONYMOUS
<http://www.cybergate.com/~ufonline/>

ALIEN BOB'S
COMMAND POST
<http://www.pnn.com/~boba/alien1.htm>

ALIEN CULTURES
<http://www.spiritweb.org/Spirit/zeta-reticulis.html>

ALIEN
LANDING MAP
<http://www.rzs.net/cgi-bin/alien.cgi>

ARE WE ALONE?
<http://ccn.cs.dal.ca/~am974/aliens.html>

BILLY MEIER
<http://www.billymeier.com/>

BUFORA ONLINE
<http://www.bufora.org.uk/>

ETADO
<http://www.ergonomica.com/amoone/ETADO.html>

EXTRATERRESTRIAL
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ENTITY PAGE
<http://www.ce.fit.edu/users/pinto/index.html>

HANGAR 18
<http://hangar18.horizonco.com/>

NEVER TRUST
AN ALIEN
<http://www.olywa.net/V2/V2.html>

SETI
<http://www.seti-inst.edu/Welcome-page.html>

UFO ABDUCTION
INSURANCE
<http://www.gslink.net/~ufo/>

UFOS IN THE 90S
<http://www.execpc.com/vjentpr/vjufos.html>

THE UNEXPLAINED
<http://www.unexplained.flagtower.com/index3.html>



All the Web sites mentioned in this feature can be reached via PC REVIEW's own Web site at <http://www.futurenet.co.uk>

While we're turning our gaze to the stars watching for aliens, they may be watching us... but from much closer to home. (This image taken from the Unexplained CD-ROM.)

Everything you ever wanted to know about...

ALIENS



Allen Bob is just one of many aliens using the Internet to conduct research on human beings.

Do aliens exist? We investigate using information provided by the Internet and CD-ROMs...

Fox Mulder, from the *X-Files*, is a special man. And it's not just because he gets to spend so much time with Gillian Anderson's Agent Scully. Mulder, you see, is the man of the '90s. The Cold War has been won, the Communist Empire is gone, and presumably the only thing we need worry about is whatever's 'out there'. Mulder's character takes that tiny ripple within us that questions the unknown and amplifies it into a tidal wave of popular interest. Tirelessly, and with paranoid intensity, Mulder seeks the truth. Because it's 'out there'.

Yes, there's a little bit of Mulder in everyone. Some people however, have more than their fair share, and they're the ones who display both a strong interest in the search for extraterrestrial life and an inordinate propensity to create Web sites. Consequently, there are thousands of Mulderites raving about their paranoia on the Internet. What they have to say is amusing, interesting and often quite scary.

An appropriate place to start is UFOs in the '90s, where you can quickly get up to speed on extraterrestrial life. It will, for instance, tell you all about the Hale-Bopp comet. Well, astronomers are calling it a comet, but ufologists have concluded that because it has an erratic path it must be an alien spacecraft. What's more, they say there is a companion object flying along behind the main comet. One geezer even claims to have received radio signals from the second flying thingy saying 'Greetings' and 'Warning'. This Web site has numerous pictures of Hale-Bopp, and you can draw your own conclusions.

Like any good aliens site, UFOs in the '90s has a whole section devoted to the Roswell incident. Basically, this centres on a series of UFO sightings in Roswell New Mexico in 1947. A couple of years ago, a film depicting an autopsy being carried out on an alien corpse was unearthed. It is believed the autopsy took place at

Roswell, and for those who believe, Roswell offers the most conclusive evidence there is that aliens exist.

It's no surprise then, that the Web is plastered with text and images relating to the Roswell alien sightings and the autopsy. If you want to spend a week or so mulling over the various accounts, expert opinions and so on, park your cyberplane at Hangar 18. Named after the building where a crashed alien craft was supposedly hidden during the cover-up, this site has a mission to publicise the secrets of Roswell. That is why, for instance, in addition to pictures of the dead alien, it has photos of a reconstructed crashed spacecraft, just like the one taken away by government agents in 1947. "Made with model trains, miniatures and a few trips to the hardware store," it says.

Actually, much Roswell-related material out there is truly baffling. This is partly due to the sheer volume of accounts, commentaries, explanations and so on. But mainly it's because of their contradictory nature. There are, for instance, at least two different leaked autopsy reports corresponding to the post mortem in the film. They can't agree on details such as the length and weight of the cadaver, its flesh wounds, gender or the colour of its blood. (After all, the film's in black and white.) Then again, perhaps there are more alien autopsy films just waiting to be discovered. Out there.

Anyway, who's to doubt the existence of aliens? As the late Carl Sagan said, with so many millions of stars in the universe, it's highly likely that in some solar system somewhere, life has evolved. ▶

What they have to say is amusing, interesting and often quite scary.

CD-ROM CONTACTS

The Unexplained
• £29.99 •
Flagtower • 0171 393 3000

Weird
• £29.95 • McGraw-Hill • 01628 23432

NEWS GROUPS

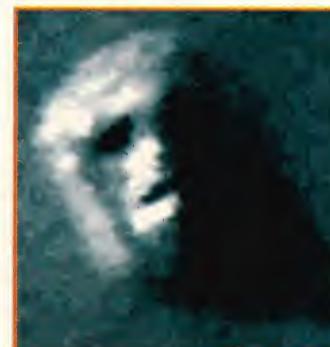
Argue all you want with alien seekers at the following newsgroups.
alt.alien.research
alt.alien.visitors
alt.ufo.reports
alt.paranormal
alt.conspiracy
sci.skeptic



The famous Hale-Bopp comet is thought by many ufologists to be an alien space craft. This picture is at the UFOs in the '90s site.



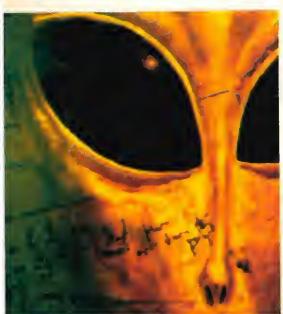
Here's a still from the Roswell alien autopsy film care of the Are We Alone Web site. They say there's been cover-up ever since. Porky little guy, wasn't he.



The face on Mars is said to resemble that of the Sphinx. You'll find it at the Extraterrestrial Biological Entity site.



Videos of flying objects can be downloaded at the Extraterrestrial Biological Entity home-page, including several from Area 51, Nevada.



ALIENS

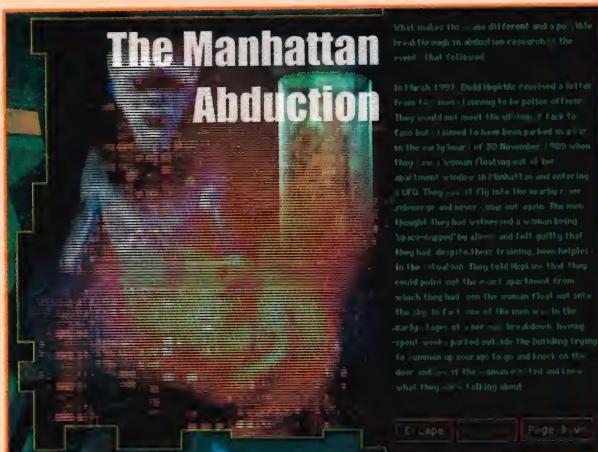
SETI



Search for Extra Terrestrial Intelligence is a serious institute set up in 1959 to try and detect technologically advanced alien civilisations. Though it no longer has the backing of NASA, SETI is currently using the world's most powerful antennae to detect radio signals that may be emanating from some 1000 sun-like stars here in our corner of the galaxy. According to SETI's Web site, the institute admits that no conclusive evidence of extraterrestrial life has been found. But they still think it could exist.

Two flying platters - aliens on the ROM

British multimedia publishers have produced two damn fine CD-ROMs dealing with the paranormal over the past year, each of which contains a section on aliens. Shiver as you witness them...



It's spooky. It's kooky. It's nothing other than weird. Aside from monsters like Nessie and rains of fish from the skies, this disc also turns its attention to UFO hunters. A survey is quoted which suggests that thousands, if not millions, of Americans have been abducted. That could explain a few things.

Some people, however, want to believe so badly that they've created a complex mythology explaining why, although aliens certainly exist, so few humans have seen them. Looking at sites like Alien Cultures, you'll discover that we're not able to detect aliens because we haven't yet attained a suitable state of spiritual consciousness. The Pleiadians, Sirians, Orions and the Zeta Reticulans, it seems, are happily participating in a Confederation of Planets. The increase in the number of UFO sightings seems to suggest we are drawing closer to the Confederation's spiritual level, but according to the site we have to attain higher levels of spirituality and give up our warlike tendencies to join them.

Several alien races are profiled at Alien Cultures - there are even drawings - and you might be interested to know that the ones called 'greys' in Mulderite parlance are probably Zeta Reticulans, from a home 150 light years away.

The strain of alien beliefs displayed by the Alien Cultures site is very similar to those

What makes this... a possible breakthrough in abduction research is the event that followed.

In March 1993, Edith Hopkins received a letter from a man claiming to be police officer. They would not meet the abductee, in fact to face him claimed to have been parked in a car in the early hours of 20 November 1989 when they saw a human floating out of the apartment window in Manhattan and entering a UFO. They got it off into the nearby forest and never saw it again. The man thought they had witnessed a woman being kidnapped by aliens and felt guilty that they had disrupted their training. This helped in the trial. They told Hopkins that they could point out the exact apartment from which they had seen the woman that had told the story to the one that was in the nearby. They also said that the abductee had been trying to summon up courage to go and knock on the door and ask if the man had seen and heard what they were talking about.

Escape Page 8/10



The best disc for alien info is probably The Unexplained. Among other things, its UFOs section features the case of Travis Walton (above), an American woodsman who believes he was sucked up by a blue light and experimented on for five days. His experiences resulted in a made-for-TV movie.



Worried about body snatchers? Then get a \$10 million insurance policy.

of Eduard 'Billy' Meier, a Swiss man who has for 54 years maintained physical and telepathic contacts from the Pleiades star cluster. In fact, he believes he is their ambassador on Earth. Billy has travelled time having loads of fun with his alien friends. See if you believe him at the Billy Meier page.

Though Billy mentions many aliens he's spoken with, he says nothing of Alien Bob, an alien who has his own Web site. From his base at the Sinoel Roc outpost, Bob will tell you what he and his egg-headed friends have been up to since landing back in 1943. But be careful - Bob thinks we humans are irrational and rather backwards. He might flame you.

Bob's by no means the only alien to host a Web site. For instance, the Alien Landing Map is broadcast across the Web and is something of a centre of alien communications. If you're an alien and wish to send a message to your unearthly brethren, you can post it on this site for all to see.

It's no wonder some of these aliens seem so aloof, however. Okay, most of us would

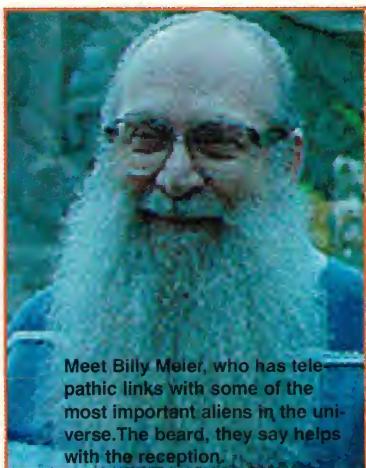
sympathise with an ET stranded millions of light years from home, we also create depictions of aliens as evil, self-serving beings intent on invading earth. That's where the Extraterrestrial Anti-Defamation Organization comes on to the scene. Through its Web site, it fights the intolerance and demonisation of aliens. You can help by snitching on any alien slingers you come across.

Unfortunately, they never stop to think that some aliens might really not be all that nice. Indeed, lots of people claim to have been abducted by them. Now, if you've been abducted by aliens you'll probably know about it. Just in case you don't however, Abductees Anonymous offers 52 indicators of alien contact. Interesting. According to the site, if you've had electronics around you suddenly go haywire with no explanation, it could mean you are an abductee. An interest in the environment or vegetarianism is also a sign. As is, wait for it, waking up suddenly in the night. Let's face it, we're all abductees.

So, as Mulder is continually being told, the truth really is out there. And hopefully we've brought you closer to it. Oh, and there is one more thing. Trust no-one. Er... yes. Not even us. (GW)



The Alien Cultures site boasts some great paintings of alien races. Meet the Zeta Reticulans who can be helpful, but are often on missions to collect human DNA.



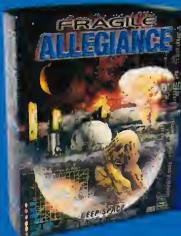
Meet Billy Meier, who has telepathic links with some of the most important aliens in the universe. The beard, they say helps with the reception.



Free stickers at the Never Trust an Alien site.

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Fragile Allegiance (0040)

Gremlin RRP £39.99

Mine asteroids and build space fleets in this fantastic new strategy game from Gremlin. As an employee of TerraCorp, you're up against five alien races, all competing with each other to plunder the asteroid belt of its riches. You can try a diplomatic approach, making pacts with your tentacled cousins, or else you can simply boil them into a primordial slime with your Star Destroyers. Remember Asteroids? *Fragile Allegiance* is miles better.

Simply 3D Super Pack (0042) Micrografx Originally sold for £79



With its high performance rendering engine, mass file support, quality textures and materials and complete object control, *Simply 3D* is simply the 3D animation package you've always wanted. Keyframe animation enables you to define camera paths on the fly and focal lengths for each view. All you need is imagination. (Otherwise, try ripping off someone else's devastatingly attractive sci-fi film.)



Realms of the Haunting (0041)

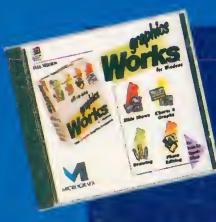
Gremlin RRP £44.99

This could be the game that changes adventures forever. Your father's mysterious death has prompted you to explore an old manor house for clues (when will people learn to stay away from old country mansions?). With its complex puzzles and involving, first-person-perspective, *Realms of the Haunting* puts you right into the terrifying action - just where you don't want to be! All the characters in the game were motion captured, with the full motion video shot using advanced blue-screen techniques.

Windows Draw 4 (0043)

Micrografx*

Windows Draw 4 is the ultimate printing and graphics studio. While there are many packages on the market combining every facet of image manipulation, few are so consistently reliable. You can use *Windows Draw 4* to produce all your postcards, letters, certificates and the like that you could possibly need. There's stacks of clipart and typefaces on the disc for use in your own projects.



Graphics Works (0044)

Micrografx*

Here's a complete set of graphics tools, all bundled into one pack. With *Graphics Works* you can wow your colleagues with your graphical prowess. There are drawing functions, with full support for Bezier curves, object manipulation tools and special effect filters. There's a whole suite dedicated to photo editing and, to top it off, *Graphics Works* even comes with a slideshow program for presentations.

*Please note: Windows Draw 4 and Graphics Works are not boxed. You will receive the fully working program on a CD in a specially designed dual case.

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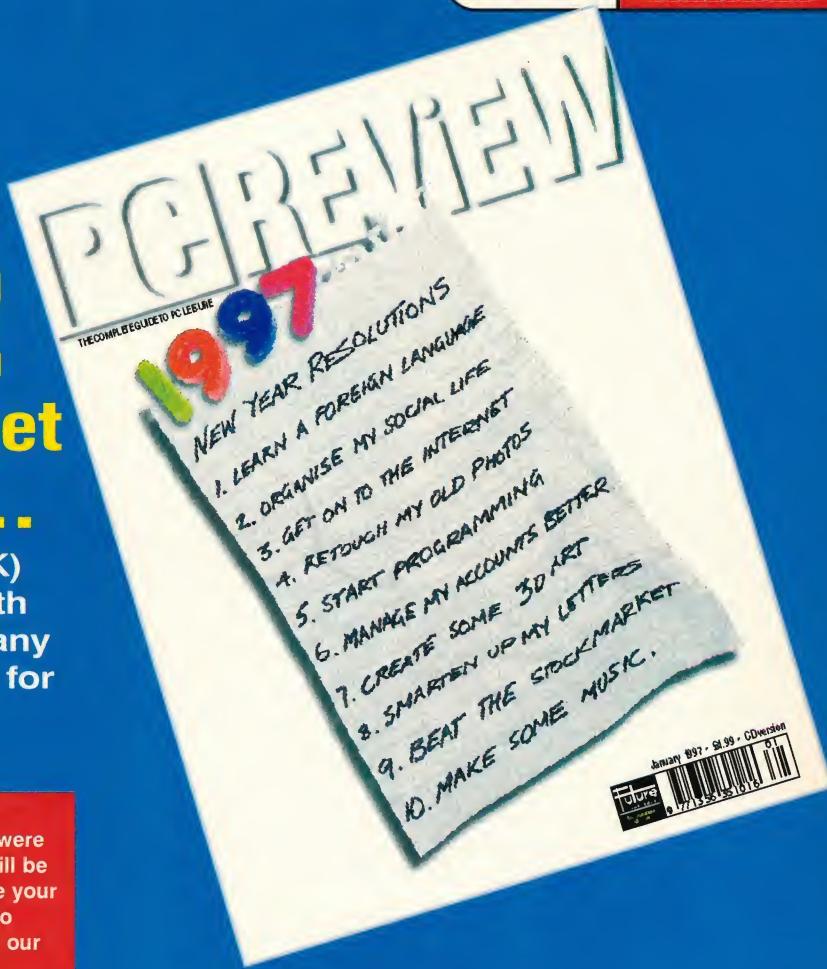
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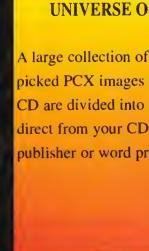
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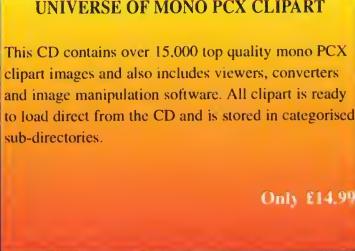
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*All the tips you
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EMERGENCY

65

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The first skill you have to learn is how to lean back on one heel, cup your chin in your hand and suck breath through your teeth. Go away and practice in front of a mirror until it looks natural.

As you'll see, becoming a PC expert is as much about adopting an attitude as it is about absorbing facts. For example, a professional expert never admits defeat until the client's money runs out – and then it's the client's failure, not yours.

Okay, so let's get down to imparting some expertise. We'll start with the kind of PC expert this article aims to make of you: a systems expert. This is quite distinct from a programming expert, a Net expert or any of those other experts who have to demonstrate bottom-line results.

A PC systems expert merely has to make something work, not make it work usefully or profitably. Those issues are only for the merchant classes. You, however, are destined to rise above such petty considerations.

It's the person with the broken PC – a friend or colleague, maybe – who really counts, so help them feel more confident in you by looking the part. You should understand that computer experts come in three main types: the wizard, the consultant or craftsman.

The wizard is unworldly, bearded, T-shirted and sandalled. He or she (female PC wizards can grow beards but shave for social reasons) works with the brain, and since everyone has a brain and is



PANIC NOW!

EDUCATE OR KILL?

The most common problem with any PC is the person operating it. To fix this problem you must either kill or educate the operator. Killing the poor soul prevents any recurrence of the problem but for social reasons should be used only as a last resort. It's better, then, to give helpful tips and advice. Do this only when necessary, of course. Unwanted advice usually breeds passionate hatred.

It's Dead Jim



To make an emergency boot disk open Control Panel and double-click on Add/Remove Programs to get to the correct Properties dialog.

reasonably familiar with its workings, it's easy for us to spot a fake. Basically, your spells won't work without years of training, which is why there are few wizards.

The consultant works with other people's brains but needs a suit, excellent grooming, expensive perfume or strong aftershave, a portable computer, a digital mobile phone and this year's BMW. It's a lot to arrange.

Your best bet

No, your best bet to begin with is the craftsman. Craftspeople just need flat shoes, tied back hair, a few tools, an arcane

vocabulary, a collection of props and the ability to suck air through their teeth.

Your basic props are inexpensive. Two small screwdrivers (one crosshead and one straight) plus a pair of needle-nosed pliers and a cheap, slow external Hayes-compatible modem with a five-metre telephone cable extension. Along with tools you also want a

You need an arcane vocabulary and the ability to suck air through your teeth.

There it sits, failing to glow with electric health. 'This is an ex-PC,' claims the owner. Never take their word for it unless you need the parts.

First, is there any sort of noise or light from the PC or monitor? If not, start by checking the wall socket. Check the fuse in the plug. Plug the power lead directly into the monitor and see if it comes on.

If the monitor has died, fixing it is a job for a TV repair type person. Try another monitor to check your diagnosis.

If the monitor works, check the system box. Is the fan, the floppy drive or the hard drive responding when you turn the PC on? Any lights flashing? If nothing happens it's almost certainly the power supply at fault. You need a new one.

If the cooling fan is working and there are whirring noises but it still won't boot up, open the system box. Has someone disconnected the power leads to the motherboard? Take nothing for granted.

If things whirr and the PC beeps but does no more you at least know the processor and essential motherboard functions are OK. Check to make sure the system RAM is still there. It can walk from public PCs.

If you're getting a message saying 'No operating system found' or something similar, then you're into the area of the software problem.

The most common reason for a PC failing to boot up is some fool removing 'unnecessary' files - often hidden ones they've found in the root directory - you know, the operating system files. This is where that emergency boot disk comes in handy. You know you have one.



Select the Startup Disk tab and click on Create Disk, then follow the instructions.

selection of bootable 3.5-inch floppy disks, but they must fit into a flip top box with a 10-disk capacity. They should have DOS 6.2 on them - the cream of all DOS.

Among them will be an installation disk, a diagnostics disk, a utilities disk, a virus scanner disk and one containing a copy of PCAnywhere or Carbon Copy Plus, which enables you to connect to your own PC and get any other programs or files you may need at the other person's expense.

Finally, to prove you're up with the times you also need a disk or two with a basic set of files to connect you to your Internet account. This should be a 16-bit installation

Windows is broken

Damn. You just know it's going to be tricky. To tell the truth, it might not be as tricky as you think. It depends on how the operating system is broken.

In the worst case scenario, Windows 95 won't even start in Safe Mode. To get to this you press the [F8] function key when Windows 95 announces it's about to start, then select Safe Mode from the menu that comes up.

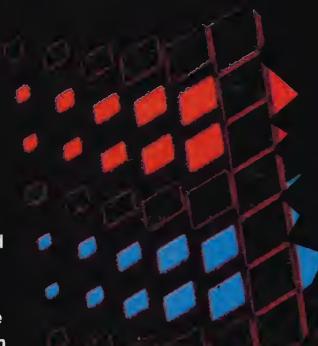
In Safe Mode, click on Control

Panel, click on System and look through the Devices list to see if anything is obviously causing problems. Check details on a device's resource usage by double-clicking it.

Devices installed twice – or unnecessary devices – can be selected and deleted using the Remove button. Then boot Win95 again.

Actually, unless you are an expert, this approach can cause more problems than it solves. As a result, you should only ever do it on someone else's PC. Hah!

No, a much safer approach is to re-install Win95 from scratch. This takes about 20 minutes and is almost guaranteed to work so long as you delete the existing not-working-properly Windows directory and sub-directories first.



You can leave the details of re-installing application software, video drivers and anything else to whoever caused the problem in the first place. That should teach them never to do it again.

Sometimes a broken Windows looks repairable. It may simply be complaining about a missing file. This can happen because a program has accidentally been deleted manually or a piece of hardware changed.

If you can start Windows then it didn't need the file. You can use the DOS Edit utility or Windows Sysedit (it's in the \windows directory) to hunt through your c:\config.sys, c:\autoexec.bat and system.ini files for the offending file or driver and delete the whole line. Alternatively, you can put a semi-colon in front of it to turn it into a temporary comment.

If Windows won't run without the missing file, you can copy it from another Windows 95 installation or, to be really clever, use Extract to get it straight off the Windows installation disks.

Win95 Setup is supposed to detect an existing installation of Windows 95 on your PC and offer to

verify and replace missing and/or corrupt files – but we can't force it to do it and neither can anyone else we know. Pity really, because this would be useful.

```
Auto : Extract> extract /A d:\win95\win95_02.cab > cablist.txt
: Extract> type cablist.txt

Microsoft (R) Diamond Extraction Tool - Version (16) 1.00.0500 (04/3/95)
Copyright (c) Microsoft Corp 1994-1995. All rights reserved.

Cabinet win95_02.cab
08-24-1996 11:11:10a A--- 49,543 format.com
08-24-1996 11:11:10a A--- 18,967 sys.com
08-24-1996 11:11:10a A--- 33,191 hinen.sys
08-24-1996 11:11:10a A--- 63,116 fdisk.exe
08-24-1996 11:11:10a A--- 15,152 attrib.exe
08-24-1996 11:11:10a A--- 69,886 edit.com
08-24-1996 11:11:10a A--- 105,984 regedit.exe
08-24-1996 11:11:10a A--- 7,332 scandisk.ini
08-24-1996 11:11:10a A--- 20,554 debug.exe
08-24-1996 11:11:10a A--- 18,096 chkdsk.exe
08-24-1996 11:11:10a A--- 76,496 uninstal.exe
08-24-1996 11:11:10a A--- 69,120 msgcmcs.dll
08-24-1996 11:11:10a A--- 57,344 access.cpl

: Extract> extract d:\win95\win95_04.cab systhunk.dll
Microsoft (R) Diamond Extraction Tool - Version (16) 1.00.0500 (04/3/95)
Copyright (c) Microsoft Corp 1994-1995. All rights reserved.

Cabinet win95_04.cab
Extracting systhunk.dll

: Extract>
```

Now you can check through the text file you've created to find which CAB contains the missing file. Then you can use Extract with the name of the CAB file and the name of the file you want within it to get it out. It makes you look like a very techy expert when in fact it's drop-dead simple.

Microsoft Windows files come archived in CAB files. You use the DOS Extract utility to get them out. First, though, get a list of all the files in all CABs by using Extract with the /A switch and the name of the first CAB file. Send the results to a text file by using the [>] redirection command

program so it works with Windows 3.1 as well as Win95.

The one you got from your Net access provider should do, otherwise get a Net expert to make you a set. Navigator 1.1 is ideal as the browser but an FTP client is more impressive to the uninitiated.

There are a few optional extras you might like to include if weight isn't a worry. For example, the Windows 3.1 and Windows 95 Resource Guides from Microsoft Press are thick and obscure. They look good beside the PC on which you're working. A set of installation disks for each operating system is useful, as well. Even more impres-

sive is a set of basic expansion cards - a multifunction I/O card, SVGA graphics card and a Sound Blaster 16 card. Later, you'll learn how to get these for nothing.

Completing the arsenal

The final weapon in your arsenal is access to a PC guru. This person needn't actually know anything – they just have to be around to answer the phone.

You call, sit there and explain the problems, detail what you've tried already, quote a few random .INI file settings and pause while you nod and suck air through your teeth. The speaking clock will do.

Training for the big day is all well and good, but eventually you have to actually do it. Someone will call for help and you have to leap into a convenient telephone box and emerge as Expert Man.

As you take your place before the offending PC, remember there are only two kinds of PC – working ones and broken ones. Ignore the person who called you until you're ready to take their evidence. First examine the PC itself to determine which category it belongs in.

Is there evidence of tampering? If you even suspect someone has been wilfully tampering with a PC – hardware or software

TAKE NOTE
Keep a small pad beside any PC you work on. In it you should keep a record of everything to do with the machine – specifications, expansion card settings, times, dates, where you bought things, when you fitted them and a fault history. It will make any future problems, should they occur, easier to track down.



PANIC NOW!

More work can be less effort

One of the most common upgrades is a new hard drive. Most people, however, want to keep the old one as well. What they don't want to do is re-install Windows 95 and their application software on to the new drive, then set up all their software preferences all over again as well.

Of course, you could just leave the new, bigger, faster, more reliable drive as drive D, but then you're losing most of the advantages of having it. As an expert, you can do better. Your approach is first to install this new drive as a secondary or slave drive. It will become drive D.

Having done that, you then prepare it using the Fdisk utility to turn the whole drive into a single active partition. Then run the Format utility by typing in the command `format d: /s`. Make sure you get the right drive or you'll wipe out the contents of the old one. And you don't want to



The best way to add a new hard drive without re-installing everything is to copy the contents of your old drive to the new one. So, do you? The next step is to copy everything from your current drive to the new one. Yes, everything.

So start your PC in DOS mode and type the command `xcopy c:*.* d:\ /e`. The `/e`

just forces Xcopy to copy empty directories as well.

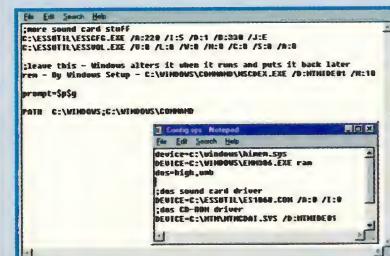
You now have a complete copy of your system on your new drive. Unfortunately, nothing much will run here because all your programs believe they're on drive C.

Now take both drives out and make the master drive the slave and the slave drive the master. You need the documentation for this as there is no standard for the jumper settings on hard drives.

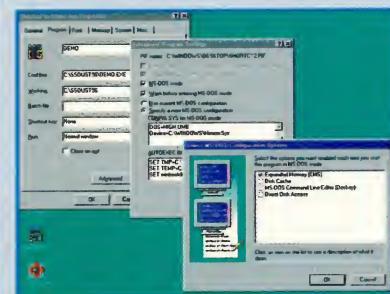
When you reboot, your PC should start from the new hard drive with all your files and programs neatly in place. In case anything is wrong you effectively have a complete back up in the form of the new drive D, which was your old drive C.

Once you're sure the new drive is working properly you can clear whatever you don't want off the old drive, thus freeing it up for more goodies.

How do I make this game run?



Make a DOS environment with the drivers needed for your soundcard and CD drive. Use the manufacturer's installation routines.



Cut and paste the lines needed from Notepad to the file Windows uses to start the games in DOS mode.

It's easy to make the mistake of answering the wrong question. All current DOS games should work straight out of the box on a properly set up PC, especially under Windows 95.

So the real question is how to make sure your PC is correctly configured for DOS games. Windows will look after memory, which leaves two important considerations: the CD-ROM drive and sound card must work under DOS.

PCs often come with the CD-ROM drive and soundcard set up only for Windows 95. DOS games work provided you can play them in a DOS box – but it's slower. So, you need properly written configuration files: Config.sys and Autoexec.bat. Yes, we're once again in the grasp of those two mirthful old stalwarts of the PCs arcane inner workings.

Start your PC in pure DOS mode by pressing [F8] just before the Windows opening screen appears. Now check to see if you can access a CD-ROM. If not, run the CD-ROM DOS driver set up disk supplied with your PC or CD-ROM drive. This will update the configuration files for you. If your soundcard doesn't appear to work with

DOS games do the same thing, run the DOS driver setup routine. This can be a bit involved with some sound cards, but read the manual, start at the beginning and work through it carefully.

You should now have your PC set up for DOS, but you may not want all those DOS drivers whenever Windows runs.

Copy the configuration files to a temporary directory and open them under Windows using Notepad. Now you'll be able to cut and paste the lines from each file into the special versions of these files used for DOS games.

You get to these by selecting Properties from the right-click menu of a game's shortcut. Do this for each game and then you can cut the default Config.sys and Autoexec.bat files down again or delete them. We prefer to keep a back-up copy handy for those occasions when you really do need a fully-configured DOS environment – when Windows breaks, for example.

If a game is persistently hard to set up in Windows 95, install it in pure DOS and get the soundcard set up there. Run it in Windows 95 later on and you should find the sound and everything else works fine.

– punish them immediately by taking it away. It doesn't matter whether or not you can fix it on the spot, they've inconvenienced you by their actions so inconvenience them right back. Take it away and hang on to it for at least a fortnight claiming you're waiting for a software driver update.

If, however, the problem was caused by incompetence, such as foolishly following a manufacturer's instructions translated from Japanese to English by someone who knows neither language, then you can tackle it on the spot with a clear conscience.

While you examine the PC, demand all the manuals and documentation plus the

original driver disks, CD-ROMs, program installation disks and settings for every device in the PC. These things might come in handy and if they fail to produce any of them it further demonstrates their incompetence and your expertise.

The heck it does

Begin by ostentatiously checking all the connections from the wall socket outwards. Check that each and every lead is tightly screwed into every socket – surreptitiously loosen one if they are and then explain how important good connections are with low voltage signals. Turn the PC off and back on

again so you can get at the BIOS settings. This always looks good. You just have to press the key in the message, 'Press Del for Setup' or whatever.

If you don't see such a message turn it off and reach for the motherboard manual. Once you have the BIOS settings screen make sure the PC is configured to check the A drive for a boot disk first. If the PC will start from your emergency boot disk, it probably isn't broken, merely misconfigured within a defined set of parameters. All you have to do is determine the parameters and reconfigure.

Start with those BIOS settings. Appear to examine all the BIOS setup screens on

How do I use this program?

As an expert you'll often be asked questions the answers to which you haven't got a clue about. People assume you're familiar with their ancient accounting program, *GroatWorks*, for example.

If approached at a party by some PC plebian, claim you're a greengrocer and accuse them of being drunk. If it's a friend, however, you might be obliged to actually help them.

Experts become just that by asking questions. When you're trying to help someone with a specific piece of software you've never seen, keep your hands in your pockets and get them to demonstrate what

they're trying to do – after all, they should at least know what it is they're trying to achieve. If necessary, ask them to explain what they're talking about – you're a PC expert, not a vet, accountant or swimsuit designer.

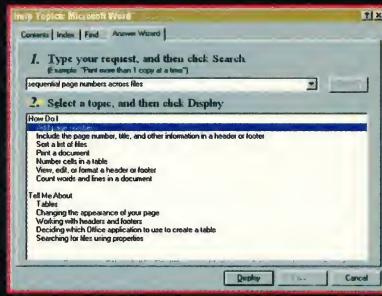
Grab the manual, if they have one, and look up key words in the index. Read the sections while half-listening to them rambling on about how many groats they made in the last quarter. When you find something relevant get them to figure out the details and try it.

Keep doing this until it works, they give up, or you can prove there isn't a solution. Phone the supplier and if no one there

knows ask for a contact for the author – always make it someone else's problem.

With a Windows program the Help system is bound to be useful. Plunder it. Never, though, start prodding keys at random. If you can't get a precise procedure get the program's user to at least figure out a workaround.

Once again, never touch the keyboard or your pretensions to being an expert will be blown. If they ask why they're doing all the work explain to them the difference between giving a starving man a fish and giving him a fishing rod. You're making them an expert which makes even more of one at the same time.



The latest Windows applications have interactive Help files. As an expert you should know how to use them.

With Word, you can insert a page number, include text with page numbers, and start page numbering on a page other than the first page of a document. You can also change the page number format in different sections of a document so that a preface or an appendix is numbered differently from the main document.

What do you want to do?

- » Insert page numbers
- » Include the page number, title, and other information in a header or footer
- » Start page numbering where you want

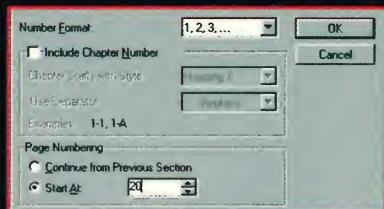
Here's a Help Wizard devoted to helping you use Word. Let's say we want our pages to be numbered. It shows all the subject areas in which the subject might be found. Add Page Numbers has Start Page Numbering Where You Want.

Help Topics Back Options

Start page numbering where you want

- 1 Make sure your document has more than one section.
- To insert a section break, click Break on the Insert menu, and then click an option under Section Breaks.
- 2 Click the section where you want page numbering to begin.
- 3 On the View menu, click Header And Footer.
- 4 On the Header And Footer toolbar, click .
- 5 On the Insert menu, click Page Numbers.
- 6 Click Format.

From here we discover we need to edit the Headers and Footers and then check the Insert menu. Okay, we'll take a look.



Well what do you know? Here's a dialog box with Start Page Number At... in it. Thank God for the real experts.

Help on-line

Virtually every software firm now has a Web site. At any such Web site you're likely to find tips and fixes for programs created by that firm. Entering the name of a program into a search engine is a good way to track down extra help.

offer but actually check that the PC believes it has a working hard drive, some system RAM, serial ports, parallel ports and other basics bits.

Unlikely as it seems, with an older PC especially, a component may have failed. If this is the case get a replacement from the victim... er, your friend or colleague. Never

supply a part yourself in case their PC breaks the replacement as well. If changing it fixes the problem make them order a new part from someone with whom you have a kickback arrangement.

Mucking with software

In practice, it's rarely as simple as something broken. The usual problem is a software misconfiguration problem caused by the client mucking about with things they don't understand or an installation problem.

Software configuration problems are either obvious or obscure. If they're obscure don't waste your life thinking about them.

Find out which data files on the PC are essential, and if it's more than one floppy disk's worth, whinge about your friend's lack of backups. Transfer their data files by modem to your PC. This demonstration of technical competence alone is enough to establish your credentials as an expert.

Once the data is safe, run the Format utility over the hard drive to clean it up and re-install everything from scratch. Explain you have to do it to fix the 'sector degaussing overrun error' (or some similarly silly Star Trek technobabble.)

Reinstalling Windows is boring but safe. At the end of it that PC will work better than it

Reinstalling Windows is boring but safe. At the end of it that PC will work better.

THE SURGEON

The Hippocratic Oath binds doctors to 'First, do no harm'. Adopt it. If you don't know what you're doing at least don't cause further damage. If you don't know whether what you plan to do can damage the patient, it's safest to do nothing at all. After all, you don't want to get sued, do you?



PANIC NOW!

SEEK THE ANSWERS

Real experts ask questions. Get all the information you can from the user and the PC. Then read the manual, check the Web sites, call faxback systems, ask questions in newsgroups, plunder other people's experience and then try to fix it the problem. No-one ever became an expert without asking the right questions.

Communications breakdown

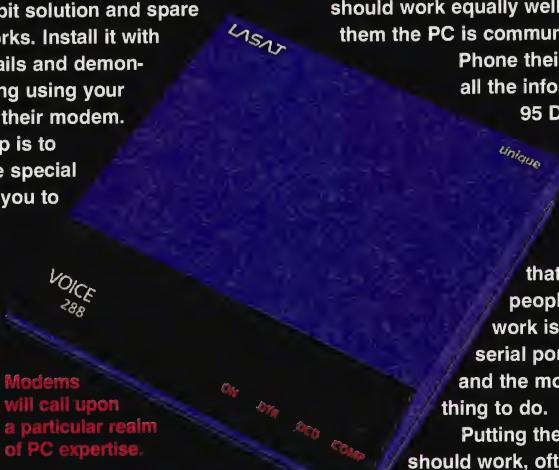
You never have any trouble getting on-line and using the Internet because you're an expert. That much is obvious. But plenty of other people have precisely this problem.

When asked to cope with a PC-style communications breakdown, reach for your 16-bit solution and spare modem. Use one you know works. Install it with your own Internet account details and demonstrate everything up and running using your own gear. Now you can attach their modem.

If it still works the next step is to replace the 16-bit Winsock, the special driver program which enables you to network with the Internet. The wrong version of Winsock is behind an alarming number of PC communications problems. If the one you're dealing with is faulty, you'll want to replace it with the 32-bit version in Windows 95.

This may have to be installed from Windows 95 Setup. It's part of dial-up networking.

The easiest way to do this is to use the Internet Wizard which comes free with Microsoft Internet Explorer 3.0. Use your



has since the day they got it and they'll be truly grateful. They'll also gain good karma by slogging through the set up process for all their software. Don't forget to download the data files from their end, saving yourself money.

Knowledge is power

If the problem is obvious then you have them by the short and curlies. You know something they don't – you really are an expert. Now you can take total control, tell them anything, make anything happen and make up a fee, secure in the knowledge you can deliver the goods. You want to get the

most out of their lack of understanding while and victimise them as much as possible. One of the best ploys is to use a trivial problem as an excuse to upgrade their PC. You know they want you to.

For example, if they have an old 1Mb graphics SVGA card you can tell them the problem is caused by ancient, rotting hardware unable to support exciting new 32-bit graphics software. They buy a new graphics card which you set up – not forgetting to fix the actual problem – and suddenly their PC is a better, more satisfying, possession.

You haven't merely fixed it, you've improved it. What's more you have a spare

client's telephone to download it from Microsoft's Web site, <http://www.microsoft.com>.

If your 16-bit Internet utilities still work with the 32-bit Winsock – they should – you can try 32-bit applications. These should work equally well. At this point you can again show them the PC is communicating perfectly well.

Phone their Internet Service Provider and ask for all the information you need to set up Windows 95 Dial-Up Networking with their service.

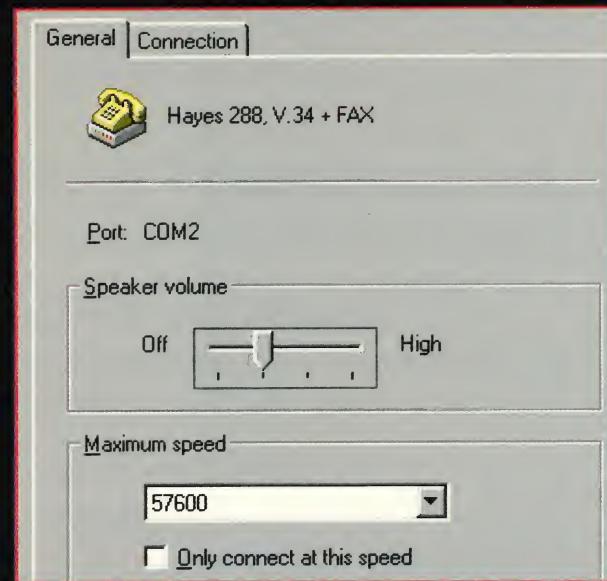
Finally, create a new Dial-Up Networking Connection using the information you recently gleaned and test it.

You might be interested to learn that one of the more common reasons for people failing to get an internal modem to work is because the PC already has a second serial port. If it exists, this should be disabled and the modem set to COM2 – this is the easiest thing to do.

Putting the modem on the COM4 setting, which should work, often doesn't unless you have all four serial ports fitted. You can't usually put it on COM1 because of the mouse, though you can move the mouse to COM2 and put the modem on COM3. This keeps the COM port numbers sequential.



Make sure Dial Up Networking is installed. You'll find it in Add/Remove Programs, Setup.



As a general rule, if it isn't a Hayes-compatible modem claim it's unsuitable for the Internet and refuse to have anything to do with it.

old graphics card to add to your test kit. Everyone is happy.

There is still the irritating moner from Hell to deal with, but you've now learned most of the techniques you need in order to cope. Typically, the moner from Hell has bought a 386SX-based PC – made in the Bronze age – with 2Mb of RAM and a 100Mb hard drive for far too much money, believing it to be just like a real PC.

You've been called because they can't install their ripped-off copy of Windows 95 – so there must be something wrong which you're required to put right. Go through your usual routine without comment. Spend 20

Classic Help Desk Capers

The best way for a PC expert to put people at ease is with a ludicrous tale of someone even more confused by PCs than they are. Here's a small selection of stories contributed by full-time technical support experts.

- 'Hello, this new PC card I've bought isn't working. I've tried inserting it dozens of times and nothing happens.' As you'd expect when the card is actually a floppy disk marked 'Sound Card Drivers'. Doh.
- 'Yes, I'm trying to install Microsoft, but it doesn't work.' Hmm, a bit close to the truth there.
- 'I have to go out for 15 minutes, can you install the Web on my PC while I'm gone?' Do you want all of it?

Do you want an S or W?

- 'Hi, my PC won't start'
'Is it plugged in?'
'Hang on, I'll get a flashlight.'
'Why do you need a flashlight?'
'The power is out, it's dark in here.'
- 'This mouse isn't working right, and there are no buttons on the top.'
True enough – he was using a portable with a trackball meant to fit on the side.
- A PC engineer was called out to a big customer, a two-hour drive, and after being kept waiting a further 15 minutes was asked, 'Why are some of the keys o

Programming?

Contrary to widely held beliefs, you don't need to become a PC programmer to be a PC expert. You'll be able to solve most PC problems through a simple but logical understanding of Windows. Learning C++ will certainly teach you a lot about PCs, but it most likely won't help you troubleshoot for your friends.

minutes or so checking really obscure things. At the end of it stand up, rock back on your heels and in your practiced style suck in breath through your teeth. Remember, you're just as expert at doing that as you are at fixing PCs.

Tell them what a shrewd buy it would normally have been, the 'normally' is important. You then hit with the bad news about the RAM refresh management port failure which is preventing Windows 95 from installing and which has also damaged the hard drive.

Only an expert like you could have spotted this, you tell them, even the person

**my keyboard grey and some white?
You need training to address such
important issues.**

- Some hours after installing a new tower-style PC in a customer's home the shop got an irate call to say it wouldn't work. After much investigation it turned out someone had removed the plug to use a vacuum cleaner.
Always check the obvious first.
- After half an hour checking Dial Up Networking settings, ports, software and so on for a customer who said they couldn't download Web pages it turned out they weren't logged on. 'Oh, do I have to be?' They asked.
Depends how virtual you want to get.

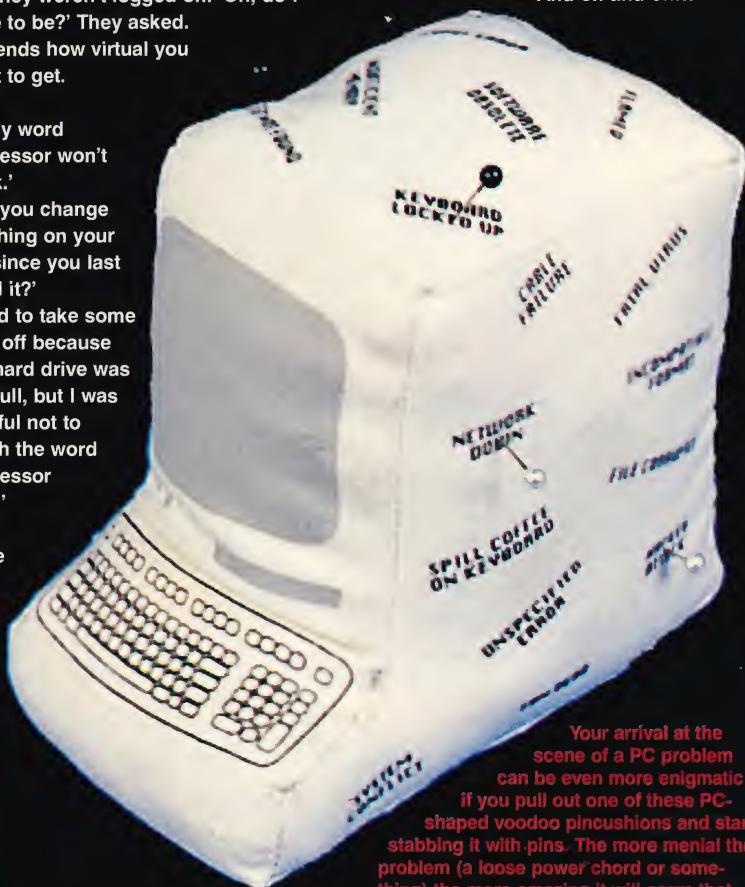
- 'My word processor won't work.'
'Did you change anything on your PC since you last used it?'
'I had to take some files off because the hard drive was too full, but I was careful not to touch the word processor files.'
'Are there

any error messages appearing on your PC screen?’

'Yes. Can't find Dos.'

- ‘This sound card you sold me is broken. The left channel is coming from the right speaker and vice versa.’
We leave the solution as an exercise for the student. (Hint: move the speakers.)
- ‘I received the software update you sent, but I am still getting the same error message.’
‘Did you install the update?’
‘No... Oh, am I supposed to install it to get it to work?’

And on and on...



Your arrival at the scene of a PC problem can be even more enigmatic if you pull out one of these PC-shaped voodoo pincushions and start stabbing it with pins. The more menial the problem (a loose power chord or something) the more amazing it will seem that you actually fixed it.

who sold it to them probably didn't know. This is why they should always take you with them when buying new kit. Fortunately, you can replace the faulty motherboard and hard drive for around £250, adding a suitable mark-up for your time and experience.

The final flannel

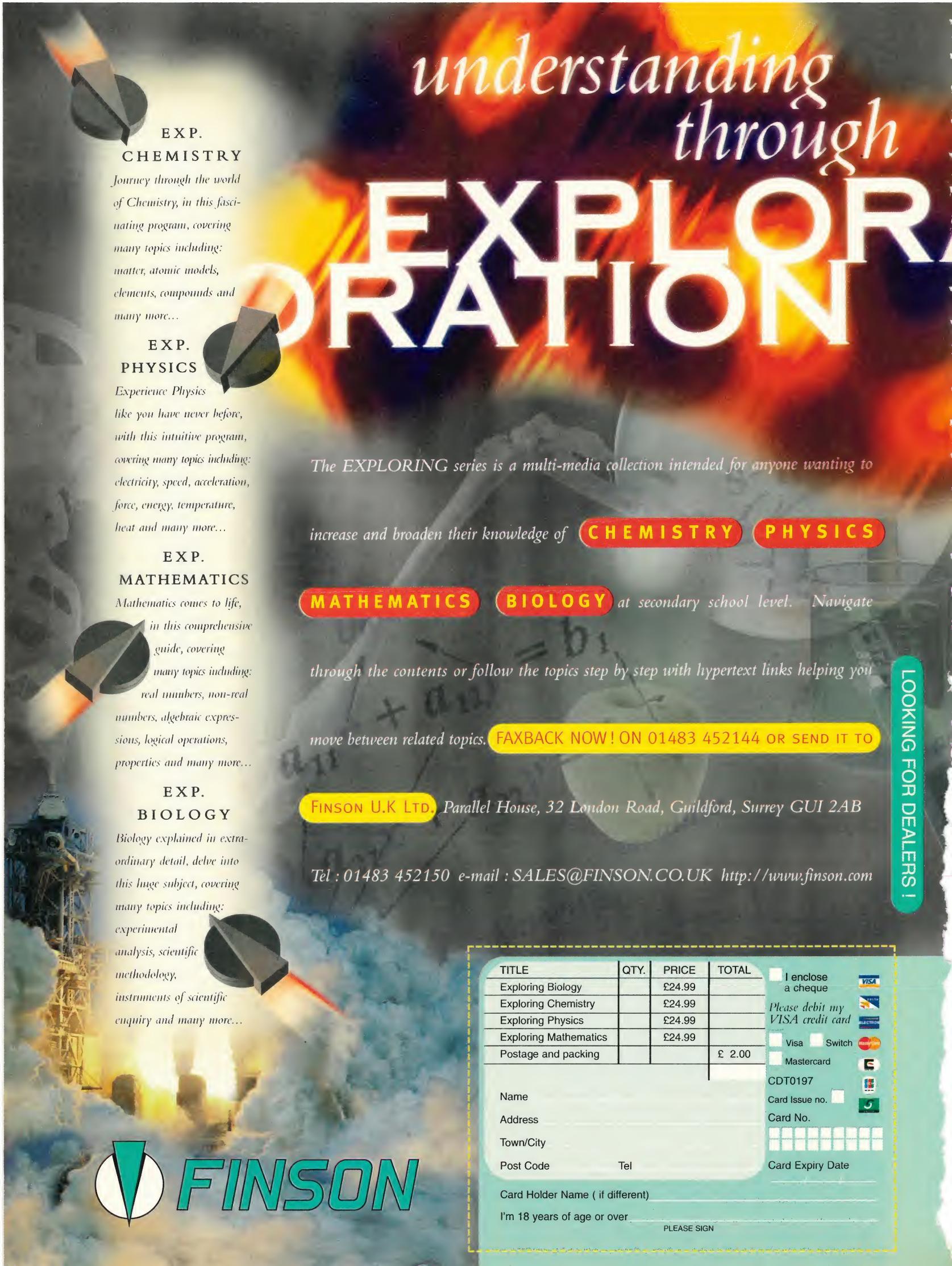
You then buy a cheap 486 motherboard, a cheap 66Mhz 486CPU, 8Mb of RAM and a 500Mb hard drive – they deserve no better because they're greedy and foolish.

Once this is fitted you install Windows 95 and boot it up. "Not a bad buy after all," you say. "Though a bit slower than a new PC."

you've still paid less than half what it would normally have cost."

The erstwhile irritating moner is now pathetically grateful to you for overcoming the effects of their stupidity and greed without once mentioning either and will recommend you to all their friends. Because everyone loves an expert like you.

To recap, never quote checkable facts when confusing flannel will do, if in doubt go for a fix you know will work no matter how much of someone else's money you have to spend to do it, and never give a sucker an even break. Congratulations, you've finally reached the enviable rank of PC expert. **(AC)**



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blaster

PLAYER

ALIEN TRILOGY VS TERMINATOR SKYNET

The latest PC screen versions of two of the biggest action horror movies ever go head to head this month. In space, they'll be back.

While blockbuster movies inevitably spawn inferior sequels, it used to be the video game versions that really drew the flies. A few years back gamers were 'graced' with the most wretched of platform-based *Terminator* games. And while *Alien* has made it to '97 with its reputation relatively unscathed, licences such as *Dracula* and *Robocop* haven't been so lucky.

Now the trend of recycling a movie licence is actually working to restore the reputations of the offspring of the silver screen, with better game designs, bigger budgets, and an understanding of the importance of familiar sights and sounds. The latest two such offerings are typical of recent game-of-the-movie attempts, in that they both take their cue from the omnipresent

Doom, opting for first person views of their respective sci-fi/horror settings. Similarly both do their best to retain the flavour of the subject matter using video footage designed to mirror sequences from the movies, not to mention make the most of familiar characters. *Skynet* manages to bring both Kyle Reece and John Conner into its briefing sequences, while *Alien Trilogy* features the familiar shaved pate of Sigourney Weaver's Ripley character, as well as using voice samples to remind players that it's her they are controlling.

What with both games tapping into a whole series of film classics rather than one particular film, and both featuring legendary movie monsters, it's ►



1997 is already looking like the best year ever for PC games. It's only February and we've already found a game worthy of a nine out of ten score and an essential award. So, turn quickly to page 50 and read about our Game of the Month, *Diablo*, from the people who made *Warcraft 2*. Just as that seminal game spawned its imitators, we predict that *Diablo* will be next Christmas have a host of eager little pretenders. Enjoy the Player section. See you next month.

Mark Ramshaw
pcreview@futurenet.co.uk

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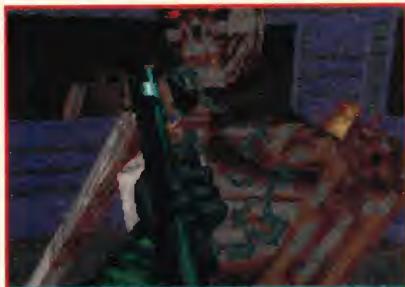
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Not only does Skynet feature a far greater range of individual-looking types, there's even the option to play a Terminator, making it a real battle of good vs evil.



Alien Trilogy's 3D might be dated, but some neat transparency effects bring smoke to life and create effective veiled doorways.



All Skynet's enemies are true polygonal objects. Get up close and you can see a Terminator's joints. And the barrel of its gun.

► only fitting that they should get in the ring, give the camera their most menacing stare, and prepare slug to it out for the highest PC REVIEWS score. Let battle commence.

Round one: playability

Just how do our titans compare as a one-player experience? *Alien Trilogy* scores points from the off, offering over 20 levels that pretty much follow the path of the three movies, and include one or two set-pieces to keep things on the move.

And while the reliance on tried-and-tested *Doom* gameplay robs it of any real surprises or inspiration, it also means that pretty much every element of the game has been road-tested for reliability. One look at *Alien Trilogy* and you know exactly what to expect, from the massed Alien attacks to the switch-operated doors and secret passages.

The only fly in the ointment is the way the behaviour of the alien creatures has been modelled. Basically, it hasn't. Instead these supposed death machines tend to trot around like headless chickens. Surprise lunges, cunning traps, moments of sheer terror – none of these feature in *Alien Trilogy*. Skynet, on the other hand, has the advan-

tage of using pretty much the same game engine as *Terminator Future Shock*, albeit with the addition of an SVGA graphics mode (using Skynet in conjunction with an existing copy of *Future Shock* will actually make that game playable in SVGA mode, too).

And what an engine it is, offering full viewing and movement in all directions, and making the most of the full 3D effect in the mission objectives and the way the Terminators and other enemies attack. Here is a game as likely to have the player battling against Terminator sentries in an underground maze of computer screens, as driving a jeep through the city ruins while fending off an attack from the skies. And while the enemies may not exactly be overflowing with intelligent attack styles, the game designers have at least positioned them wisely, building the game up from brutal one-against-one battles on the first couple of levels to all-out bloodbaths in the later stages. All good stuff, and thanks to the huge variety in the missions Skynet manages

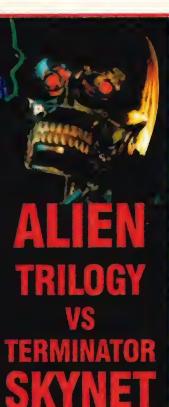
to both retain interest and work its narrative into the action with great success. Round one just has to go to Skynet, then.

Round two: look and feel

It's no good whacking a famous name on the box if the game looks nothing like your favourite Hollywood creation. *Alien Trilogy* scores points immediately here, for managing to include a version of Ripley which actually looks something like the real character, as well as whacking familiar scenes and military hardware from the three movies in the between-level rendered animations.

Then there are the in-game locations, with loads of dingy corridors and familiar HR Giger wall detail immediately bringing the first two *Alien* movies to mind.

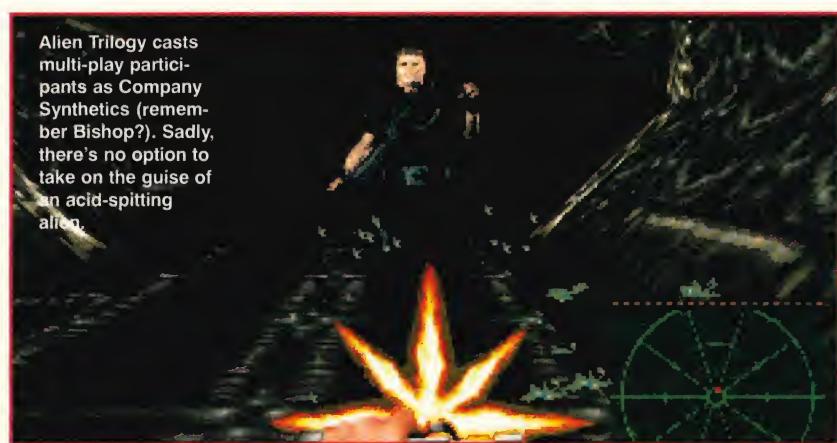
Even that tension-inducing scanner has been included, as well as a number of comments and wisecracks from Ripley. Shame they sound as if they belong to the mouthy Vasquez rather than our heroine, though. (Confused? Go rent *Aliens*.)



THE BITCH IS BACK (AGAIN)

Just when you thought the *Alien* movies had run their course, a fourth – *Alien Resurrection* – is currently in development. Sigourney Weaver will appear again as Ripley, thanks to the a plotline involving cloning, while Winona Ryder will provide support. The *City Of Lost Children*'s Jean-Pierre Jeunet will direct, *Trainspotting* man Danny Boyle having apparently turned it down.

Alien Trilogy casts multi-play participants as Company Synthetics (remember Bishop?). Sadly, there's no option to take on the guise of an acid-spitting alien.



Skynet's character detail is enough to differentiate other players in multi-player mode.



Skynet features plenty of familiar hardware from the *Terminator* movies, much of which can be used as well as blown to pieces.



Alien Trilogy packs its far share of blasting, but the aliens never really get scary.



Practically every aspect of a level can be altered in Skynet's multi-player mode.



One of the alien handlers. Ripley is fighting the minions of the mysterious Company.



And come to think of it, the actual level designs hardly convey the claustrophobic atmosphere that pervades all three *Alien* outings. Most disappointing, however, are the aliens themselves. Thanks to the use of crappy old 2D sprites, they resemble an accident in a paint package more often than the heartstopping biomechanoid terrors that fuel so many nightmares.

Who cares if they scream in just the right way when torched with a flamethrower? It doesn't mean a thing when the dreaded Alien Queen bounces around the screen like a ton of lego.

And then there's *Skynet*, which has an immediate disadvantage in that it portrays the robot-dominated future Earth that's only briefly glimpsed in the two *Terminator* movies. And as capable as Bethesda's Xngine 3D system is, the results can't help but look too clinical and ordered. No amount of overturned cars and craters can help recreate that moody, laser-strewn warzone look. And while the game world feels wonderfully three-dimensional, what with six degrees of freedom and almost every visible object benefiting from polygon rather than

sprite modelling, those all-important Terminators still look rather scrappy.

Still, the booming music is spot on. And the level detail is hugely impressive, with all manner of ruins, hidden areas, and buildings with fully explorable interior networks. To play through a level of *Skynet* is to explore an incredibly vivid 3D space, one which fits snugly into the game's ongoing storyline. Compare this with the sub-*Doom* layouts of *Alien Trilogy* and the winner of this round just has to be *Skynet*.

Round three: gameplay

It's time to weigh up the multi-player appeal of each of our contenders. Again it's *Alien Trilogy* which suffers here, failing to understand that the whole point of a multi-player option would be to give players the opportunity to step into the body of an alien, ready to tear human opponents to shreds. Instead,



Bizarrely, the world of *Skynet* seems largely populated by refugees from *Star Wars*. At least they're not as scary as the Terminators.

there's a network mode which gives no more than four players the opportunity to take on the role of 'Company Synthetics' (i.e. regular humanoids), in alien-free versions of any of the one-player levels. Even worse, each player needs to own a copy of the *Alien Trilogy* CD.

Skynet sensibly goes down the Deathmatch route, tailoring every aspect of the game for multi-player carnage. It still lacks the single-minded brilliance of *Quake* or *Doom*'s Deathmatch modes, but the result is up there with

Duke Nukem's magic multi-player moments.

Which means that *Skynet* is once again the winner. Antiseptic visuals, disappointing Terminators, and slightly fiddly controls mean it's not quite the *Quake*-with-added-Arnies some might have hoped for. But it's still a world away from the movie licence of yesteryear. And that's something to be very thankful for. (MR)

PC REVIEW VERDICT

5

SKYNET

DEVELOPER

Bethesda

PUBLISHER

Virgin

CONTACT

0777 777 7777

PRICE

£39.99

MINIMUM SYSTEM

486/66, 8Mb RAM, 20Mb hard disk space, double speed CD drive, soundcard.

Dodgy Terminators aside, a glorious and hugely varied movie romp.

PC REVIEW VERDICT

8

CD REVIEW

Playable demo of *Skynet*. Oh yes.

THE BATTLE OF THE BEASTS Just which game brings the movie monsters to life the most effectively?



These creatures are supposed to be the mutated dog-Aliens from *Alien*, but look like they were drawn by a ten year old. And the aliens themselves are a disappointment too, owing more to Lego Corp. than H R Giger.



This individual, on the other hand, needs absolutely no introduction. The character detail isn't quite up there with *Quake*'s, but the effect is pretty impressive nonetheless. *Skynet*'s game environment feels a bit clinical.



The Alien Queen is a much more impressive effort, until she breaks free from her egg-laying section and begins chasing Ripley. Then that sprite bitmapping problem rears its all too familiar head.



Compare it with this attempt to bring a legendary image to life. Even better, *Skynet* lets players take on the role of an Arnie-style Terminator in the multi-player mode, where it thrashes the pants off *Alien Trilogy* – again.



You can go for the zoomed-in helicopter view which, have a separate window along with main view or have running full screen.



A key part of GP Manager 2 is car design. This is detailed enough, but handled over a series of a few simple screens.



When a car pulls into the pits you perform all the usual running repairs, refuelling and tyre changes from this simple screen.

GRAND PRIX MANAGER 2

MicroProse does the F1 double with a management sim that leaves its competition stalled on the grid...

Surely torture has reached a new level of sophistication in the form of the *Grand Prix* management sim. Even the Spanish inquisition stuck to less severe forms of torture like gouging people's eyes out and searing their bodies with hot irons. Only the most malevolent of blasphemers were forced to click through screen after screen of tedious menus in the vain hope of getting a Formula One car to the track. Or could it be that most *Grand Prix* management sims are actually just rubbish?

Well, now that a decent *Grand Prix* management game has finally come along it looks as if the Spanish Inquisition theory is out the window. This can only mean that all other sims of this ilk (namely, *F1 Manager* and *Team F1*) must be less use than the Pope at a Bar-Mitzvah. The reason? No matter how good the statistical models behind any sim, there has to be a decent, approachable interface to let the player do what they've gotta do and this is where *Grand Prix Manager 2* wins by a mile.

For a start, the developers have rather sensibly given you the option of having

everything you need to enter a Formula One season. So, you don't have to go in at the deep end and negotiate every contract, buy every part and hire all the personnel before you know how all these things work together. This makes learning the game a lot easier and lets you have some fun competing in races while you get to grips with this highly detailed simulation. It's a simple yet vital touch that makes it all work.

The display of the game is gratifyingly clear and straightforward. Clean menus are complemented by a set of hot icons that'll transport you to any of the game's screens. All races and qualifying take place on a single overhead map view of whatever circuit is next for the F1 circus – a helicopter view can zoom in on the teeny cars – which is surprisingly exciting given its simple 2D look.

Further options let you follow a race on a leaderboard with a TV screen showing limited highlights of the action, the usual mix of spin-offs, pit stops, retirements and the occasional crash. Adding extra atmosphere is the commentary from former racing great Stirling Moss. It's mostly minimal stuff, information

on lap times, positions, pit stops, any overtaking and so on, but it's well-delivered and helps give the game some real character.

But, of course, this is all cosmetic and what really makes *Grand Prix Manager 2* is its finely-tuned gameplay. It really does what any good game should – keeps the basics simple and yet has layer upon layer of deeper gameplay elements to reward long term play. Getting a car to the track is easy enough and the excellent testing set-up will let you get feedback from your drivers on the cars and advice on what changes to make. There's an array of race tactics to employ and races achieve a satisfying mix of jangling nerves and frenzied excitement.

To build a championship-winning team may take several seasons and you'll have to master research and development, contract negotiation and sponsor schmoozing but you don't have to know it all at the start. It's this balanced learning curve that puts *Grand Prix Manager 2* up there with the best sports management sims. Another Formula One champion from MicroProse and the ideal alternative to action-packed *F1GP2*. (CB)

DEVELOPER
Grabowski
PUBLISHER
MicroProse
CONTACT
01454 893893
PRICE
£39.99
MINIMUM SYSTEM
486 DX2/66, 8Mb RAM,
double speed CD drive,
SVGA

Top Formula One management sim with exciting races, a clear menu system and long term playability.

PC REVIEW VERDICT



Negotiating good deals with sponsors for the key advertising spots on your men's uniforms and motors are important if you want to succeed in building a *Grand Prix* dynasty to last several seasons.



To spice up the basic yet compelling map view of the race, little TV clips pop up on screen to show cars doing their thing.



Two players take on an army of hitmen in *Virtua Cop*. There's not much variety, but there's no denying the quality of the gameplay.



The first of the end-of-level bad guys, Kong, differs from his namesake. He's not fury.



Knife and axe wielding maniacs have a habit of sneaking up on you.

SEQUENCE OF EVENTS

Being a conversion from a coin-op, *Virtua Cop* comes complete with a great attraction sequence, part of which is done using the actual in-game 3D system. Dynamic camera work and plenty of cop show staple ideas are used to show the evil gang's dockside base, and the subsequent arrival of our two VCPD heroes. Because it uses the same graphics as the interactive bits, this is one introduction which actually blends in with the game. One day all intro sequences will be made this way.



Virtua Cop begins with a mini cop movie in glorious 3D – how's that for an intro sequence?

VIRTUA COP

Sega's recent driving conversions may have faltered, but it's fighting back with a translation of its bullet-strewn arcade hit.

Now this is more like it. With the PC incarnations of *Daytona* and *Sega Rally* it was hard to ignore the fact that everything from the track detail to the control system had been scaled down for home consumption. Not to mention the way both games practically keeled over on anything less than a top of the line Pentium. *Virtua Cop* is different – there was never that much to the original anyway, so it's little surprise that it's made the leap to the PC so well. A worthy follow-on from the storming *Virtua Fighter*, in fact.

Now, fans of the coin-op will no doubt whine at the lack of a weighty firearm with which to blast away on, but in truth, PC gamers raised on mouse control will find it's

just as accurate a way of aiming, if less convincing. What matters most is that this looks and feels just like the arcade original, from the stylised polygonal characters to the movement patterns of the bad guys and the snaking level layouts. There's actually little to do in this game beyond shoot a few times, reload and shoot some more – so attention to such details is obviously what becomes most important. The gunshots sound just so, and the villains die in balletic style. Think Spaghetti Western, think *Dirty Harry* and *Lethal Weapon*, think John Woo – style gets precedence over content, simply because there's actually no content to speak of.

That *Virtua Cop* is such damn fun says much about how people are fascinated with

guns and cartoon violence, then. Blasting away at virtual bad guys is arguably very sick, but really the game taps into the same parts of the brain as childhood games of soldiers or cowboys. The difference is that here they tend to wear Tarantino-esque suits and pack Uzis.

The game itself takes in a training ground, where those mouse (or keyboard or joystick if you prefer) handling skills can be honed, before the real battle begins – initially down at the dockyard, then at a weapons storage site and finally at the gang headquarters. Whatever the level, the bad guys come thick and fast, running from walls, popping up behind crates, and firing shots from up on high. In true movie style they are far slower shots than the average player, but it's the way they pop out of the most unexpected places that gives them the necessary edge to rob you of a precious life. And this being a full *Virtua* game, these bad guys look convincingly solid as they make the most of the cover provided by the equally three-dimensional environment.

And that's your lot. There are one or two clever set pieces, and the occasional end-of-level bad guy packing a rocket launcher or something equally outlandish, but really this is a game in love with the idea of shooting and little else. It's the perfect game to blast away on for a few minutes, and hilariously good fun in two-player team mode. But will such single-minded antics provide you any kind of lasting challenge? (MR)

Level Best

One of the problems with converting a coin-op to computer is the lack of levels the arcade originals usually have. *Virtua Cop* only has three levels with two sections each.



At the docks our intrepid police team discover a whole bunch of villains preparing to ship illicit goods. Pistols, knives, Uzis, grenades – this gang will stop at nothing to protect its operation.



Outside the arms lair, our heroes find more hostages in need of saving and plenty of bad guys. Construction worker overalls rather than Armani suits are the bad guys' chosen attire here.



Finally, there's the gang headquarters to infiltrate. Once you're past the security forces, it's time to head into the building in a search for the mastermind behind this whole shady business.

DEVELOPER
Sega Japan
PUBLISHER
Sega
CONTACT
0181 995 3399
PRICE
£39.99
MINIMUM SYSTEM
Pentium 75, 8Mb RAM,
15Mb hard disk space,
Win 95, soundcard.

A distinctly shallow, short-lived bit of violence – but you'll love it.

PC REVIEW VERDICT



The only way to get more speed, action and response is to



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www.gravis.com





The driver's eye view is the most practical, combining instrumentation with race thrills.



When cars are going sideways, it's generally a bad sign, so don't try this one at home kids, unless you've taken the wise precaution of the car damage off on the options screen...

NASCAR 2

DEVELOPER

Papyrus

PUBLISHER

Sierra

CONTACT

0118 920 9100

PRICE

£45

MINIMUM SYSTEM

Pentium 75, 16Mb RAM, 19.5Mb HD space, double-speed CD drive, soundcard

Bigger, better, more dangerous and – yes! – faster than the original version. Just the ticket.

PC REVIEW VERDICT

8



Thud, crash, bang, wallop – what a picture. *Nascar 2* captures all of the sense of speed and paintwork-stripping danger of the real sport. Not to mention the proliferation of advertising.



Thrill junkies will opt for one of two chase views, just to see those wonderful pile-ups.



Here's one of the viewpoints you don't want – the result of an overambitious overtaking manoeuvre and a tad too much oversteer...

It must be a bitch trying to write a racing game for the modern PC gamer. Should you give top priority to speed and thrills? Or do players hanker after ultra-detailed trackside scenery? And are simplified arcade models likely to appeal more than physics simulations so accurate most people can't even get a vehicle out of the pit lane?

Accuracy or thrills?

Of course, we want all of these features and more. *Formula One Grand Prix* demonstrated that a balance between realism and fun is possible, particularly if you've got an arcade-smooth graphic engine and a bunch of driving aids to take the sting out of that stupidly authentic handling. The original *Nascar* failed to get anywhere near the splendour of the first *F1GP*. But with this sequel developer Papyrus has obviously looked long and hard at the competition, and worked to bring its latest up to scratch in terms of flexibility, in terms of visuals, and in terms of sheer speed. *Nascar 2* is within spitting distance of *F1GP2*, and that's no easy thing.

Nascar is that most American of car-based sports (well, except for Monster

Trucks), where the vehicles are that bit more down to earth, and by the end of the race often buried in it. While Formula One racing is all ground-hugging sleekness, there's a wonderful rawness to *Nascar* racing, which makes it almost as exciting a spectator sport as rallying. And with *Nascar 2*, it feels pretty damn exhilarating, too. Much of this is down to a refined take on the original game's features, with more immersive audio, fully customisable cars, well handled computer driver artificial intelligence, decent representations of 16 official *Nascar* tracks, and – of course – a much improved graphics engine.

The need for speed

Where the first *Nascar* potted, this one flies. Granted, the real eye-popping detail of *F1GP2* hasn't been bettered – the views here are just a little too artificial and the cars that bit less dynamic. But it remains a great leap forward, with an immersive edge that was sorely lacking in the original.

Naturally, the official *Nascar* licence means that the right teams and drivers are featured, but most British types are unlikely to care. They just want to power round the

tracks, trying out classic corner cutting and air-stealing tricks, and getting into all kinds of tight scrapes. Which is obviously why there's an external view mode – Papyrus recognises that many people will play just for the arcade thrill, this being a game obsessed with crushed bumpers and flying chassis debris.

Which is where the game falls down just a little bit. The collision stuff is spot on, but there's a definite sense of over-simplification with the handling. It's hard to understand why it's been made quite so easy, particularly when there's also an arcade driving mode. It's as if the game wants to be a sim AND fight it out with the *Scrammer 2s* of this world. And peachy as *Nascar 2*'s visuals and sense of being there may be, it just can't compete with the road rage offered by that coin-op styled racer. Particularly when you remember that the majority of the tracks are oval. Far better to consider *Nascar 2* more of a slightly razzed-up simulation, one which has all the mod cons like modem play, eight-way network mode, car paintkit options, and that groovy instant race arcade mode. When viewed in that light, *Nascar 2* is a definite winner. Just don't mention *F1GP2*. (MR)



GOING FOR A WINNING CAR
If you were to enter a rally, would you use one of these cars? Well, you probably would. That Castrol Toyota to your left actually won the last Network Q RAC Rally. Can't be that bad, can it?

CD REVIEW

You'll find a playable demo on the disc.

SEGA RALLY

Sega's processing power-hungry racer crosses over to the PC and more than makes up for its Daytona debacle.

More than any with other racing coin-op, when you played *Sega Rally* you felt that you were really driving a car. For once, Sega's typically excellent graphics and sonics took second place to the sheer thrill of the control experience. Just sitting in that cockpit, feeling the vibrations of the road through the wheel, wrestling with the car through the corners, was worth a few quid of anyone's money.

Stripped of its large screen display and clever steering wheel technology, it's hard to see how this arcade opus will translate to the PC without losing an awful lot on the way. And let's not forget, Sega's previous PC racer, *Daytona USA*, belonged in a cat litter tray. So, it's a bit of a surprise to find that *Sega Rally* PC is actually a pretty faithful and very playable conversion.

Graphically, it's a lot better than *Daytona*. At low resolution, it's a clear enough approximation of the arcade original's rolling landscapes but in hi-res (640x480) in 16-bit colour, it looks truly stunning. Much more importantly, PC *Sega Rally* has managed to replicate the thoroughly convincing car handling of the original. The cars feel alive underneath you and in every race it feels as



The most picturesque track is the Lakeside circuit, which mixes beautiful trees and shrubs with a colourful autumnal sky.

if you're trying to tame a bucking bronco rather than drive a souped-up saloon car around a few country roads. Realistic suspension and grip limits complement the twitchy handling of the cars and their oversteer makes driving all the more of a challenge. The four courses of the coin-op are also accurately reproduced.

The many banks and verges that line the tracks are a constant problem for sloppy drivers, flipping the car onto three or two wheels and forcing yet more tussles with the controls.

The scenery ranges from a desert track, through forest and mountain circuits to the final lakeside circuit and they're quite an attractive bunch, even if the desert looks as if it's more like an English country road than a Saharan dirt track. Spectators line the road, adding extra atmosphere, but the tracks don't have any of the famous tourist attractions that clutter other racers. The emphasis here is on tough circuits that reward long-term play – this is an uncompromising driving game not some flashy boy racer.

Unfortunately for the majority of PC gamers, *Sega Rally* is uncompromising on the hardware front too. Sadly, there are no options to turn off or downgrade scenery

detail to speed the game up and even at the lowest res settings you'll need a fairly nippy machine to run the game at a decent frame rate. To give you an idea, the PC REVIEW P200 could just about cope with the game in hi-res, 16-bit mode.

There are some PC specific options – an excellent two-player split-screen game and customisable car set-up, for instance – which enhance the original but you can't help but feel that Sega hasn't done all it could in translating it to the PC. There are no concessions to lesser machines, which is a shame as this conversion is right up there with the very best PC arcade racers. (CB)

PC REVIEW VERDICT

Attractive and playable conversion of the coin-op only marred by its demand for bags of processing power.

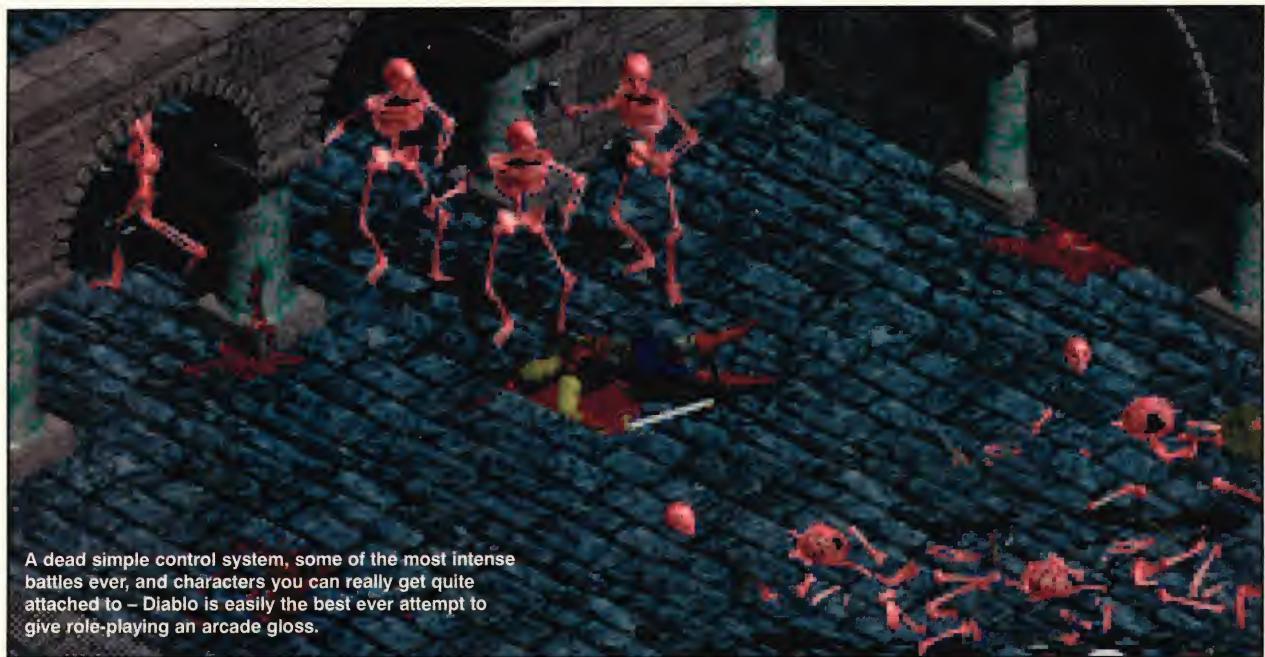
8

▼*Sega Rally* has an excellent two-player, split-screen mode and players can choose between (equally playable) in-car or chase cam views.





IT'S A TEENSY BIT LIKE...
 ...Shadowlands, an ageing RPG from Krisalis. Like *Diablo*, *Shadowlands* utilises a point and click control system, an isometric viewpoint, and a fantasy theme. It even features a simplistic lighting system to give the game's dungeons a more sinister flavour, as well as using the elements of light and dark for a few puzzles. Where the two differ is that *Shadowlands* gives players control of several characters at once, and consequently lacks the arcade-game immediacy of *Diablo*. And where *Diablo* opts for a thoroughly demonic tone to the proceedings, *Shadowlands* actually attempted a vaguely *Manga*-esque approach. *Diablo* is by far the better game, but *Shadowlands* remains one of the greats from yesteryear. It's now available for just £12.99 from The Hit Squad on 0161 832 6633.



A dead simple control system, some of the most intense battles ever, and characters you can really get quite attached to – *Diablo* is easily the best ever attempt to give role-playing an arcade gloss.

DIABLO

A role-playing game with the action of *Gauntlet* and the addictive edge of *Dungeons & Dragons*? Looks like Blizzard has done it again.

Picture a game where the controls are as basic as point and click. Point at a spot, and your character walks over to it. Point at an object and he picks it up. Point at an enemy and it is attacked. Point at a closed container and your character opens it. A point-and-click classic, eh?

Well, that's exactly what happens in *Diablo*, yet it's utterly, utterly, excellent in every sense. Oh sure, it all boils down to moving and clicking with the mouse. But then a *Dungeons & Dragons* game involves nothing more than a few rolls of the dice, and look how many millions of people are enthralled by that. *D&D*'s secret is to use such simple tools to push the player through vivid, otherworldly locations in search of

great treasures with which to build up a character's power. And as that power is accumulated, so the player becomes increasingly attached to the character, until the desire to push the alter-ego on into new adventures in search of further rewards becomes all consuming and real life goes out the window. So it goes with *Diablo*.

Blizzard was the developer behind the fabulous *Warcraft* duo, the only action wargames as essential as, and in some ways better than, *Command & Conquer*. *Diablo* offers a similarly exhilarating take on role playing, doing away with the nerdy stats in favour of action.

Not that fighting is the be all and end all of *Diablo*. Rather it's a means to an end, the



Superb looking enemies, wouldn't you say?

end being to get further into the hellish dungeons of the game, collecting more gold, more spells, better weapons, and experience points that – in time honoured fashion – lead to increased fighting and defence abilities. In *Diablo*, progression is everything.

Because it operates firmly in the fantasy arena, *Diablo* naturally contains a few silly staples of the genre, not least the usual line-up of wizards, bumpkin townsfolk and a dizzying choice of weapons and armour.

Yet there's a darker tone than usual. The opening tale of a village scarred by monsters serves as little more than a launch point from which to go adventuring into evil-infested catacombs, with the defeat of major league devils the ultimate aim. And while *Diablo*



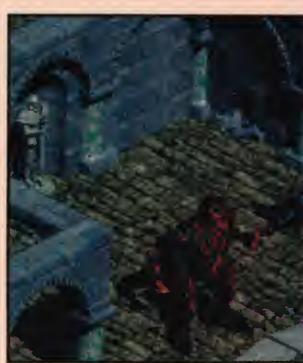
New labyrinths are generated for each adventure you undertake, with indoor and outdoor settings.



As with any RPG, legions of undead warriors are a key feature.



Hmm. Wonder if this lever turns off the barbecue.





Popping out for a spell

While it's easiest to wade right into Diablo's dungeons as a warrior or ranger, it's the wizards who ultimately get all the best toys to play with. It takes real skill to keep them alive long enough to progress to the higher experience levels, though.



The spells are varied without ever getting too obscure, and include a good selection of healing and defence magics as well as the more offensive-based ones. Best of all, they all tend to result in at least some kind of on-screen pyrotechnics. This strange blue effect is a particularly fantastic one.



The flame spells are where it's really at, capable of scorching whole corridors full of bad guys. Of course, the best way to deal with skeletons is with a particularly blunt club. But this isn't a bad alternative, and it leaves you with a free hand to turn against other foes that might be present. And it doesn't half look tasty.

does conform to type in the choice and use of spells, weapons, armour and magic items, everything is handled using such a simple, intuitive interface that the ponderous number watching of traditional role-playing never gets a look in. Blizzard has an obvious knack for seeing things from the player's viewpoint. If there's a slicker game of comparable subtlety and complexity out there, it's been keeping a very low profile.

It's not just the character-building stuff that makes *Diablo* such a rip-snorting rollercoaster ride down the highways and byways of Hell, though. Oh no. For *Diablo* has looks to match the brains, with some super smooth scrolling of isometric play-fields, a canny stab at veiling unseen areas of the dungeons in blackness, and some terrific rendered monsters.

What's more they sound just like you'd expect minions of the Dukes of Hell to sound like - from the clatter when a skeleton goes to pieces, to the squealing of bats, to the rumbling voices of major enemies like the Butcher. All thoroughly evocative stuff, and well complimented by the ambient music.

And then there are the admirable attempts to stretch the game's life well into pensionable age. For a start, the labyrinths may all conform to recognised styles, but

each new game actually features a randomly generated underworld. Which obviously means you'll never quite know what's around the next corner. And the ability to play either as a warrior, rogue or sorcerer radically changes the way the game plays, with either brute force, projectile weapons (bows and arrows) or cartloads of spells becoming the main weapon of choice.

And then there are the multi-player options. Not only is it possible to link up via

enemies given more of a run for their money. Or, you can switch off the player-friendly option and take on another player. Which is a very nasty thing to do to a stranger, but it isn't half an effective way of getting some useful weapons and magic items.

Best of all, leaving an on-line game doesn't hurt your character any - you can then take it to a new adventure at any time. Battlenet even allows killed characters to be reintroduced to other adventures. The down

point is that characters from single-player games can't be used in multi-player jaunts, and vice versa.

Still, even single-player games of *Diablo* are the sort of life-consuming affairs that are all too rare in the ever-disposable world of PC games. That balance between

rigid storyline and random environments is ideal, and by marrying the classic character progression elements of regular role-playing games with ultra-smooth point-and-click action, *Diablo* manages to offer the perfect blend of accessibility and depth. Now, to some, *Diablo* might look like so much mindlessness. But that's exactly the idea - keep it simple on the surface, but ensure there's enough beneath to trap the player into proclaiming undying devotion. Proof, were it needed, that the devil gets all the best games. (MR)

DEVELOPER
Blizzard
PUBLISHER
Zabac
CONTACT:
01626 332233
PRICE
£39.99
MINIMUM SYSTEM
Pentium 60, 8Mb RAM,
double speed CD drive,
Windows 95

An action RPG
that's so simple
it's brilliant -
further proof of
Blizzard's
genius.

PC REVIEW VERDICT
9



Enemies like this skeletal warrior have their own magical capabilities.



Four fiends and just one of you. Time for some Ivanhoe swordplay, if you please.



Objects and magic items are manipulated simply using pop-up windows.



Notice how the areas behind walls and closed doors are veiled in darkness.

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Fax: (01595) 696548

* Applies to BT lines and some cable companies check with your supplier for your area

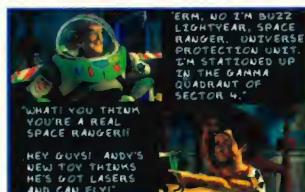
** Based on £80 annual subscription including VAT

TOY STORY

It's another Disney's movie tie-in, but this one has the sense to follow the story and visual style of its big screen brother.



Woody attempts to bounce his friends into the toy chest, in one of several surreal Toy Story moments. The use of 3D rendered models for the characters is great, though the low resolution spoils the effect a little.



Being a straight port from the Mega Drive version there's sod all in the way of clever presentation.



As the game progresses Woody and Buzz join forces in an attempt to get back to their owner, Andy.



Nice feel, but the reliance on sideways scrolling avoidance games does spoil the effect somewhat.



The collision detection is poor and often unpredictable, especially in this fight level.

There was a time a couple of years back when you couldn't move for platform games based upon movies, Disney ones in particular. Something to do with the cartoon nature of their celluloid efforts, obviously. A game based on Toy Story was inevitable.

As with the movie, this is kid's stuff that the wrinkles can enjoy too. By pitching the difficulty level quite high but enabling players to restart from the last level reached, that tricky problem of catering for both ends of the age range is solved. And what a lot of levels there are, closely following the plot of the movie, with Buzz and Woody coming to blows, getting lost, teaming up and overcoming adverse situations. Which means that it's about as traditional as games get, from the run, jump and fire controls to the restart points and 'avoid the bad guys' gameplay. Unfortunately it also means that the graphics are blocky and garishly

coloured, no attempt having been made to re-render those wonderfully 3D models.

Even the between-level screens are identical to the console version, lacking any kind of speech or animation. Giving the player control of Woody probably isn't the best idea, either. He may be the real hero of the film, but it's those Buzz Lightyear toys that all the kids wanted at Christmas. It's the colli-

sion detection which really boils the blood, though. Bounding over obstacles requires pixel-perfect precision and a lot of luck.

Despite these faults, the game captures that wonderful Toy Story flavour in content as well as style is just too good to begrudge. But you'd have to be a pretty big fan of the movie to fork out forty quid for a simple, chunky-looking platform game. (MR)



The platform-based action is broken up by the occasional beat-'em-up style section. It's not quite up to Street Fighter II standard...



This Micro Machines-esque escape sequence does at least provide a respite from the sideways scrolling game sections.

WHEN I WAS A LAD...
The tale of Toy Story may well focus around the new-fangled futuristic gizmo that is Buzz Lightyear, but one of the neatest things about the movie is the inclusion of hits from yesteryear like those plastic soldiers and Mr Potatohead. The game follows suit, even going so far as to give instructions for each level using an Etch A Sketch. Now those were the days when toys really were toys.



DEVELOPER
Disney Interactive
PUBLISHER
Disney Interactive
CONTACT
0171 605 1413
PRICE
£29.99
MINIMUM SYSTEM
486/66DX, 8Mb RAM,
6Mb hard disk space,
double speed CD drive,
Windows 3.1.

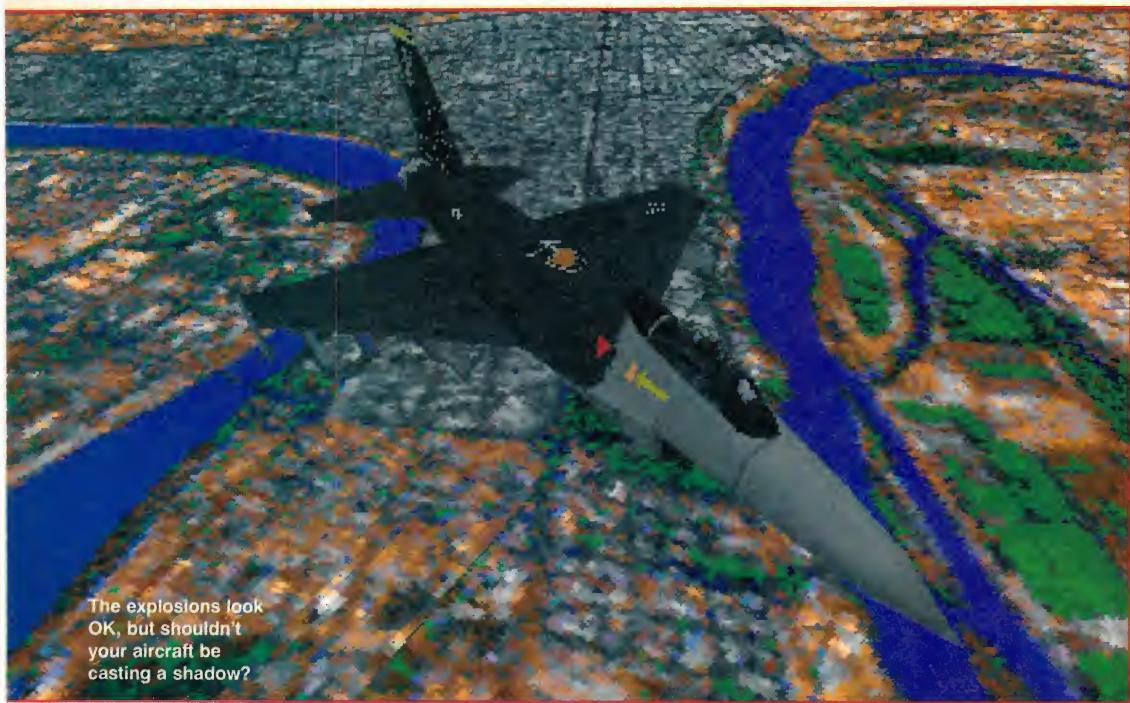
Enjoyable, but it could've been so much better.

PC REVIEW VERDICT

6

BACK TO BAGHDAD

The latest high end flight simulation comes packing a heavy dose of attitude, great gobs of accuracy but a tiny payload of taste.



The explosions look OK, but shouldn't your aircraft be casting a shadow?



Back To Baghdad's flight model feels great, and the texture blurring technique is great. But the rest is sadly far less impressive.



The visual effects in Back To Baghdad don't exactly give the impression of 'being there' and with a few exceptions are pretty poor.

DEVELOPER
MSI
PUBLISHER
Interactive Associates
CONTACT
01707 875757
PRICE
£39.99
MINIMUM SYSTEM
Pentium 90, 16Mb RAM,
80Mb hard disk space,
CD-ROM, soundcard.

Seriously real flight modelling that's crippled by seriously duff presentation.

PC REVIEW VERDICT



NONE MORE SERIOUS

As well as boasting that its flight model out-classes that of any other F-16 flight sim, Back To Baghdad even offers the option of running two monitors at once. It's possible to use this second display for controlling the MFD (multi function display), mirroring the display actually used in a real F-16. Talk about going to extremes...

You've really got to hand it to the Americans, they just won't let it lie. Witness the countless Vietnam movies that appeared after they failed to win that particular war. Now even the world of computers is fair game, with a flight simulation that, while not exactly trying to re-write history, at least wants the good old boys to go back to the Gulf and whip Saddam's hide with a little more force this time. And rather better accuracy.

The twist in the tail is that *Back To Baghdad* is actually a hyper-realistic sim, that macho exterior disguising a game that wants to take realism to the level where every single aspect of the F-16 flight model used mirrors the real thing, and where even the procedure for arming and aiming weapons is spot on. This is a game that not only encourages you to own one of those flightstick things, it bombards you with a use for almost every key on the keyboard, too. Master this and the army will probably feel obliged to let you loose on a real F-16 – pilot's licence or not. At the very least your typing will have improved.

There's little to fault with the Campaign For Realistic Flying approach. From the authentic ordnance maps of the Gulf, to the near perfect simulation of an F-16's flight

envelope, the game goes all out to let you know this is how it should be. Not that most gamers will be able to confirm this, but at least they can fly safe in the knowledge that even by losing off a missile from the left wing, the plane's dynamics will subtly change. And once you've gone ten rounds with those Iraqis, you too will know just how a real pilot would get out of a stall. Even the land detail has been recreated from satellite maps obtained during Desert Storm.

And yet, the search for authenticity doesn't seem to have stretched as far as the visuals, which are just as essential for providing that feeling of immersion in a real war, after all. Photo-realistic textures are used for the ground, and a neat 'dithering' effect even adds a pleasing blur to them when they get up close. But at most altitudes it's all too easy to see that the plane is flying over a rather simplistic patchwork quilt of

detail. Add a lack of real time light sourcing on both the ground and the aircraft, cities so flat they look like Godzilla got there first, and a rather dubious collection of missile and explosion effects, and (the SVGA resolution aside) *Back To Baghdad* begins to look like the flight sims available at the time the Gulf War actually took place. Even atmosphere hazing is non-existent, the game simply not



The day-to-night colour changes are one of the few cool visual effects, along with the way towns and cities glow with yellow lights.

doesn't bother to texture things in the far distance. Which doesn't half make a mess at high altitudes when the whole ground suddenly loses all detail.

The real flight buffs aren't likely to be deterred by such uninvolved visuals. But then they probably won't be that impressed by the unimaginative campaign structure or the utterly appalling loading times. It takes a full five minutes to load the necessary data to fly a mission. Which is obviously just the thing if you're a novice and find yourself six foot under on a regular basis.

It's not the authenticity of the *Back To Baghdad* that's in question, though that does make it rather less frenetic than most other modern jet combat games. Instead it's the carelessness with which every other aspect of the product has been put together. Just because a game claims to be a serious simulation, that doesn't give it an excuse to peddle below average visuals and loading times long enough to raise a family in. (MR)



The cockpit view has a pretty authentic HUD and the full complement of F16 instruments.



The plane looks okay, but the hills in the distance weren't hewn by the hand of nature.



Sitting on the runway waiting to take off. Hitting eject now is a real hoot.



A-10 CUBA!

Can a game which looks this dull really offer any kind of fun for the modern flight sim fan?

For better or for worse, the visual style of *A-10 Cuba!* has its roots firmly in the old-school flight sims of yesteryear. Harking back to a time when textured graphics were unheard of, this is a game that forsakes that eye-pleasing wallpapering effect for something far cleaner and simpler. Obviously this means that *A-10* is a friendlier proposition for owners of 486 machines, and there's an extra clarity afforded here that you just don't get in texture-heavy simulations, particularly when 1024x768 resolution is selected. But there's no denying the fact that one look at *A-10 Cuba!* will always prompt a stifled yawn.

Liquid action in a plane

And yet such a stripped down approach to visuals brings a fluidity to the action never really experienced on a PC before, not to mention the fact that it has obviously left the designers free to concentrate on the actual level designs and dynamics of flight and combat. It's ironic that a game with the most unconvincing of graphics actually features brilliantly detailed and somehow believable environments. Cuba really is brought to life, with impressively detailed towns and cities, traffic-carrying roads, and no small amount of friendly and enemy hardware – both



The cockpit, as with most flight sims, blocks your view with heaps of instrumentation. Oh well.

airborne and ground-based. The big picture may be a drab one, but the fine details do their utmost to make up for this compromise – from the way allied planes must share the airbase facilities with the player, to the detail on parachute drops, debris-heavy explosions, flap movements and even

aeroplane nightlights. And it's not just the incidental detail that impresses – everything from the player's *A-10 Warthog* to the missiles obey the laws of physics in the most impressive way.

When ugly beasts fly

There's also the idiosyncratic nature of the *A-10* itself to consider, something which Sierra's *Silent Thunder* never really got close to capturing. We're dealing with fearsome multi-role aircraft, a beast that packs a huge 30mm cannon in those plug-ugly looks, and one which has a peculiarly old-fashioned weapons system. All of which gives *A-10 Cuba!* the ideal material for its missions, getting the player to knock out a convoy of tanks one minute and send an enemy transporter tumbling out of the skies the next. It also means that the network and Internet-based multi-player modes rely on good piloting more than lucky timing or simple trigger pulling skills.

That there are only four training missions and a dozen real assignments to get to grips with is somewhat disappointing, then. The missions themselves possess a myriad of subtleties and challenges, but when there's no campaign mode whatsoever, and little for solo players to do once those 12 missions have been tackled, is hugely disappointing. Even the ability to create missions would have made some further use of the wonderfully mapped-out Cuban landscape. It's this, more than the unappealing graphics which condemns *A-10 Cuba!* to the non-essential division of flight sims. Now if only they could take this game engine, add a whole campaign system, and maybe just a few concessions to modern 3D techniques. Now that would definitely be a winner. (MR)

DEVELOPER
Parsoft Interactive
PUBLISHER
Activision
CONTACT
01895 456700
PRICE
£39.99
MINIMUM SYSTEM
486/66, 8MB RAM,
double speed CD
drive, Windows 95
or DOS

PC REVIEW VERDICT
Looks dodgy,
yet plays great.
But why only 12
missions and
no campaign
mode?



CD REVIEW

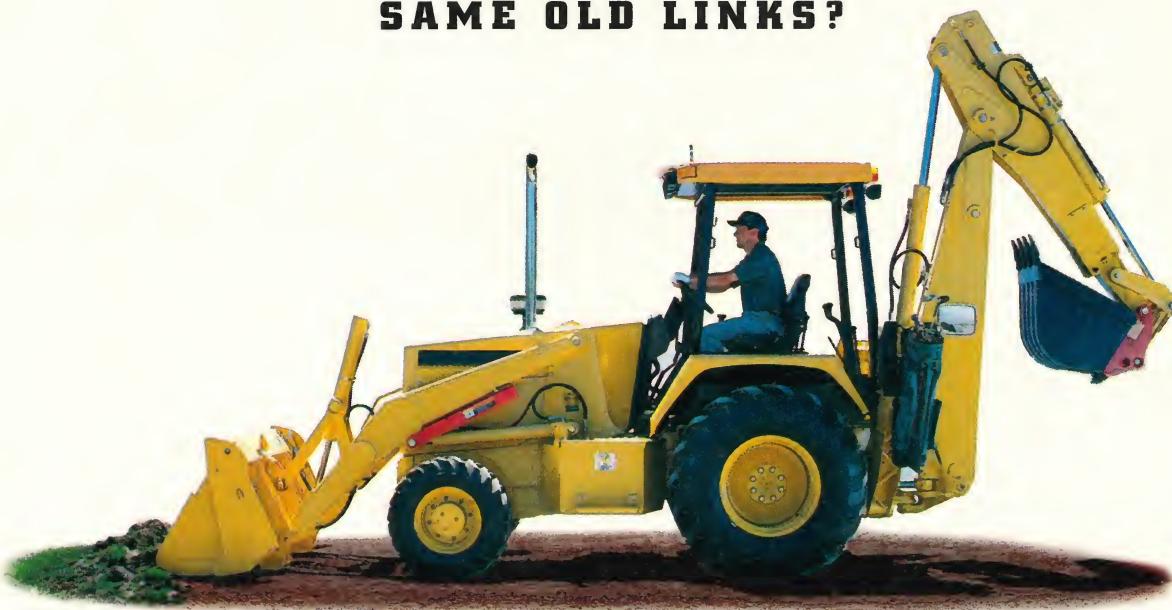
You'll find a playable demo on the disc.



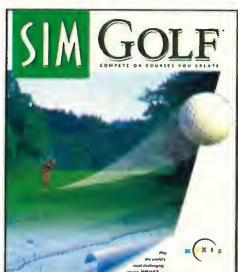
A transport plane circles the runways like some massively overweight guppy in the sky. Again, the ground doesn't look great.



**TIRED OF THE
SAME OLD LINKS?**



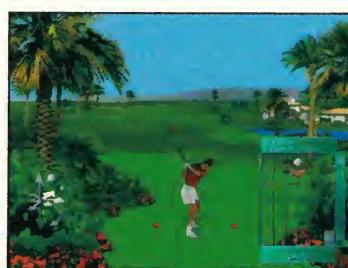
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LORDS OF THE REALM II

It's 1268, the King is dead and the people want a revolution. Instead, let them eat *Lords of the Realm II*...



Life was truly tough for a mediaeval monarch. The peasants were revolting (especially up close), the neighbours hostile (particularly when asked to turn their minstrels down), and you also parked your rump on the nation's most coveted chair.

Similarly, Impressions must be coveting *Command & Conquer*'s rule of the strategy game market – does *Lords of the Realm II* give the company a chance of seizing it? No. And for that matter, *Civilisation 2* doesn't have much to worry about, either.

Bear in mind that *Lords II* was touted as a successor to both *C&C* and *Civilisation*. By including resource management and real-time fighting, Impressions hoped to please everyone. Unfortunately, neither aspect of *Lords* is even half as fun as its influences and the result is decidedly less than the sum of its parts.

It begins well enough. Locked in a bloody civil war, you must manage your county (the extent of your territory initially) to increase your wealth, food supplies and serf population. Soon, excess

labourers can be diverted towards the making of weapons, or else coerced into joining the army. Alternatively, you can trade your excess resources to hire mercenary bands. However you get them, you'll find armies essential for conquest. Strong castles will see off your enemies but you'll need to fight to capture new territories.

Diplomacy extends only to insults and peace-offers and that other historical empire builder, marriage, isn't present at all. In the absence of dynastic in-breeding, you'll have to get your laughs on the battlefield.

And what a laugh it is. On the easier levels, combat is frankly pathetic. Your crack troops face a mob of peasants and a couple of mace-men, all of whom huddle in the corner of the map. Even on more difficult settings, the AI never does much more than dig in and wait for you next to a lake or a wall. There's no fighting for the best terrain, no counter-strokes... perhaps if the battlefield was

smaller, it wouldn't seem such a farce. But as it is, it's just a big field with trees and walls to negotiate on your way to the enemy.

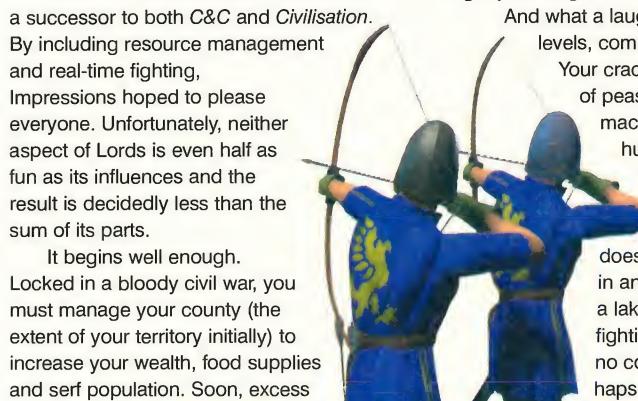
Sieging, which might have been such fun, is also disappointing. Shouting peasants, thunderous music and the castle walls can't disguise the simplicity of the challenge. Wheel your catapults into range, punch a hole and send in the lads in to chop up the remaining defenders, who'll be huddling in the corner.

Meanwhile, the resource management aspect offers little long-term interest. Once you've accumulated more than a couple of villages, exploiting your dairy herds ceases to offer much of a thrill. Careful allocation soon gives way to repeatedly hitting the next turn button, desperately waiting for new armies. With no research, no new industries and entirely static villages, little marks out one turn from the rest.

Lords II isn't an appalling game. The music is stirring, the rendered sequences are lovely and conquering the map is good fun. But there's little depth. Like an illegitimate heir with his mother's nose and father's ankles, *Lords of the Realm II* has no obvious right to the throne. (OB)

MEDIAEVAL ADVANCES

*The custom game options enable you to set up *Lords II* to your own specifications. Advanced Farming means you'll need to tend to your grain fields more closely, watch the weather and rotate your crops. Army Foraging means your army must raid the countries for food (they don't normally eat at all). And finally, Exploration switches on the Fogging, so you can only see the counties you've occupied so far.*



Individually, troops have relative strengths – archers shoot from the back, pikeman dig in and knights are fast and hard-hitting.



Without dairy herds or wheat fields, this village is close to starvation. It's probably too late to reallocate those quarry workers.



Individually, troops have relative strengths – archers shoot from the back, pikeman dig in and knights are fast and hard-hitting.



You don't really get emotionally attached to your peasants, since nothing marks out one village out from another.

DEVELOPER
Impressions
PUBLISHER
Sierra

CONTACT
01734 303322

PRICE
£42.99
MINIMUM SYSTEM
486/66 Mhz, 8Mb RAM, double-speed CD-ROM, SVGA.

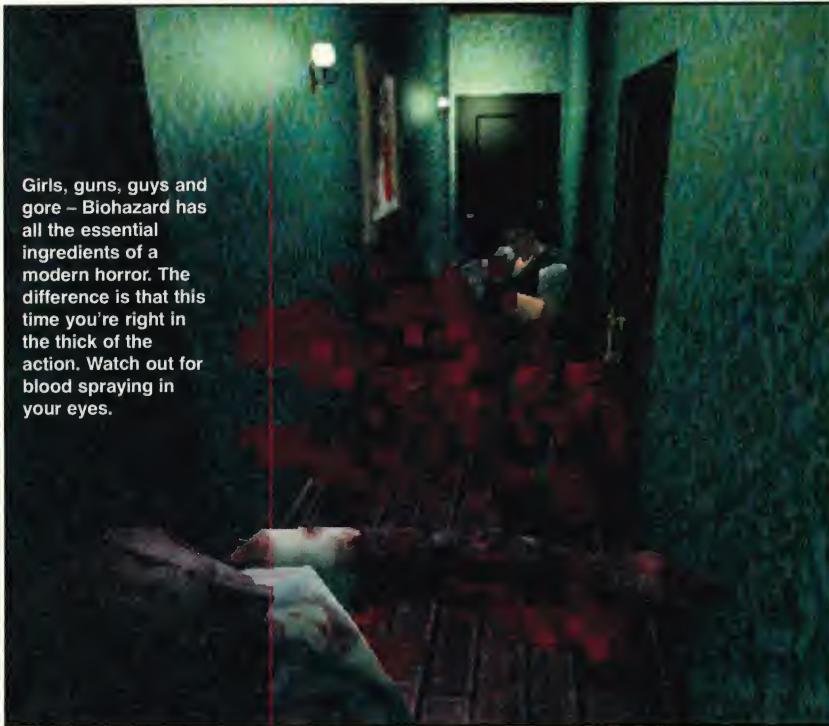
A passable mix of resource management and strategic gaming.

PC REVIEW VERDICT

6

**APOCALYPSE -
THE END IS
NIGH**

Biohazard is one of the first commercially released games which requires a 3D accelerator card to run. Moreover, it requires one particular card, the Videologic Apocalypse 3D. Available for around £150 as an add-on to your existing videocard, it's capable of speeding up and improving the quality of 3D images, providing they are created by a game which either uses Microsoft's DirectX standard, or one which caters specially for the card. *Biohazard* does the latter, which means that it can't be played using any other type of 3D accelerator card. The odd thing is that the game actually makes very little use of the Apocalypse 3D's capabilities. The card can actually perform all kinds of accurate real-time shadowing and light-sourcing effects, as well as throwing 3D images around the screen with the greatest of ease. The extra power could have been used to modify the original game design to feature Tomb Raider-style moving camera views, rather than the fixed ones, for instance. Even without such improvements it remains bloody good fun, though.



Girls, guns, guys and gore - *Biohazard* has all the essential ingredients of a modern horror. The difference is that this time you're right in the thick of the action. Watch out for blood spraying in your eyes.



We'd love to let you in on some of the wonderful dialogue that's taking place here, but sadly the censors just won't allow it.

The console hit also known as Resident Evil now makes its debut on the PC, albeit one that's fitted with an Apocalypse 3D video accelerator.

BIOHAZARD

As the battle between 3D accelerator card manufacturers gets under way, the race is on to see who can gain the most gaming support for their particular system. All new 3D cards (for example Diamond's Monster 3D, the Matrox Mystique, ATI Expression etc) support the Microsoft DirectX standard, but it's with titles purpose-written to take advantage of an individual card's abilities that really gives each manufacturer a chance to shine. A game only available for one format does a pretty good job of enticing gamers to buy that particular card too. Which is why Videologic has secured the rights to Capcom's Playstation hit, ensuring that only PC users willing to fork out for its Apocalypse 3D card can find out what all the fuss is about. How shrewd.

The fuss, and there's been a lot, concerns a particularly graphic brand of fast-action horror, one which takes the blueprint

laid down by *Alone In The Dark*, then irons out the creases, refines the best bits, and adds several tankers full with blood.

Nothing new

Nothing too revolutionary then, but already something of a milestone on the Playstation, where it goes under the more evocative title of *Resident Evil*. Be warned, however, that video gaming doesn't come more adult orientated than this. *Biohazard* doesn't just do away with good taste, it decapitates it, buries it, dances on its grave then drinks its blood. It takes a questionable story of zombies, dumb heroes and big guns and milks it for every single drop of the red stuff.

The odd thing is that there's nothing here that an unassisted PC couldn't cope with - the backdrops aren't only static, they're rendered in annoyingly low resolution. And while the main 3D polygonal char-

acters are wonderfully detailed, animated and shaded, a regular Pentium wouldn't have too much trouble knocking out images of a similar quality. So, this is a game only available on a format that it doesn't even really take advantage of (the Apocalypse 3D is a mindblowingly powerful card, despite what *Biohazard* may suggest), and offers little more than *Alone In The Dark* with added ketchup. Except, here is a game that possesses such style, strong design and naturalistic gameplay that it single-handedly almost makes owning the 3D card worthwhile. And at the very least proves itself utterly essential to anybody who has already whacked one of the little accelerators in their machine.

For a start there's the storyline, which dumps three surviving members of an elite fighting team in an old mansion which then throws a seemingly endless procession of zombies at them. Whether it's by design or



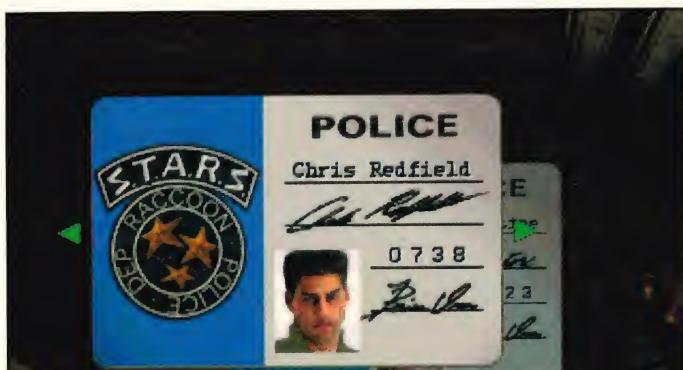
The movie intro sequence is even cornier than the in-game dialogue. The characters are uglier in real life, too.



Always ensure that a weapon is loaded - you may not have much time to react.



Run out of ammunition and you may just become a dog's dinner. Literally.



Choosing either the heroine or hero actually makes a fair bit of difference to the way the story unfolds. There's a touch of sexism about the way playing the girl makes the game easier, though.



As your character walks into this room it's completely obvious that the body on the floor will come to life. Yet although you know something bad is going to happen, the moment the creature's head bites down on the heroine's leg is heart-stopping.

And Why Not?

Some of the set-pieces in *Biohazard* are going to be just a little bit familiar to regular movie-watchers.



This may be a waterlogged hallway rather than a sunny beach, but the lethal bite of that shark shocks just as much as in *Jaws*.



Our heroine is rescued from the slowly descending ceiling trap in the nick of time. Just like in *Star Wars* and countless other films.



Exploding heads? Nice. There's a touch of the sci-fi film *Scanners* about the way zombie brains can explode in such a graphic way.



And Hitchcock would be proud of this particular sequence, which taps into the same primal fears as the movie *The Birds*.

an accident of the game originally being coded in Japanese, the script packs enough ham to scare the pants off vegetarians – a quality which actually works to the game's advantage. The lines uttered by the two beefcakes and beret-wearing female (players get to choose between the girl or the male leader) are so hokey and stilted as to suggest a real low-budget horror movie. Add a Manga-esque visual trick to heighten tension every time a door is opened, flesh ripping sound effects, and plenty of OTT incidental music and you've got the beginnings of a superbly hammy house of horrors. Add level designs which make the most of the maze-like mansion environment and serve to reunite the heroes at key intervals and *Biohazard* begins to take on seriously cinematic feel. Particularly when numerous set pieces recall everything from the *Evil Dead* and *Night Of The Living Dead* movies to *The*

Birds and even *Jaws*. If it's a horror classic from the silver screen, chances are this game pays homage to it in some way.

And then there's the fighting. It's hard to think of a game capable of throwing up (sometimes literally) such powerful scenes of violence and mayhem. Undoubtedly the level of visual detail on the zombies, hellhounds and other creatures has something to do with it – watching a monster's decomposing, three-dimensional face consume the screen is genuinely gross.

Blood, blood, buckets of blood

But it's the no-holds barred depiction of bloodshed that really nails it. Arms are shot off, heads kicked across rooms, blood pools spread over floors – and that's all in the first ten minutes. Each gunshot to a zombie brings a fountain of blood to the surface of its rotting skin, and even when the buggers

finally groan and collapse to the ground, chances are they'll stagger back up for more a minute or so later. Anybody familiar with the claustrophobia and relentlessness of those classic zombie films will understand the emotions this game is capable of generating. Of course such graphic imagery is way excessive, but it's also what makes *Biohazard* such a uniquely visceral and nerve-shredding experience. And this is allied with gameplay fine-tuned to the point only expert game designers like Capcom can achieve.

So what if *Biohazard* doesn't really put the Apocalypse 3D card through its paces, and who cares if it relies so heavily on ideas pioneered in *Alone In The Dark*? It's the way the encounters with the undead make the palms sweat that counts. You'll laugh. You'll cry. You'll puke. What more could you want from a computer game? (MR)

DEVELOPER
Capcom
PUBLISHER
Videologic
CONTACT
01923 260511
PRICE
£30
MINIMUM SYSTEM
Pentium 90, 16Mb
RAM, Apocalypse 3D
accelerator, Win 95

PC REVIEW VERDICT
Spookily old-fashioned, but frighteningly excellent. A bit of a classic.



Cool camera angles and lighting show off the exquisitely created game characters.



Note how well the 3D system can render rounded shapes. Yes, you get sexism too.



All the weapons in the world won't be any use if a bunch of zombies trap you in a corner and lodge their rotting gums in your neck.

8



LEISURE SUIT LARRY 7

For ever criticised for their obsession with puerile sexist humour, the *Leisure Suit Larry* team (Headed by Al Lowe, a man who insists on plastering his name throughout all of the *Larry* series) have created yet another game.

Judging by the *Larry* team's most recent efforts, you'd be right to be wary. Is the irritating and unnecessary toilet humour and crass, seedy, soft-core action still included? Maybe this time the team can pull something new out of the bag?

The general theme of the *Larry* games hasn't changed one jot - it's still based around the sort of action you wouldn't want grandma to see. The smutty greetings card humour is still here and even before the intro sequence you are treated to a puzzle featuring Larry handcuffed to a burning bed clad in only his underpants. However, beneath the sexist and plainly silly humour lies a smattering of well thought out puzzles and a fresh new interface.

With a simple click of the mouse you can

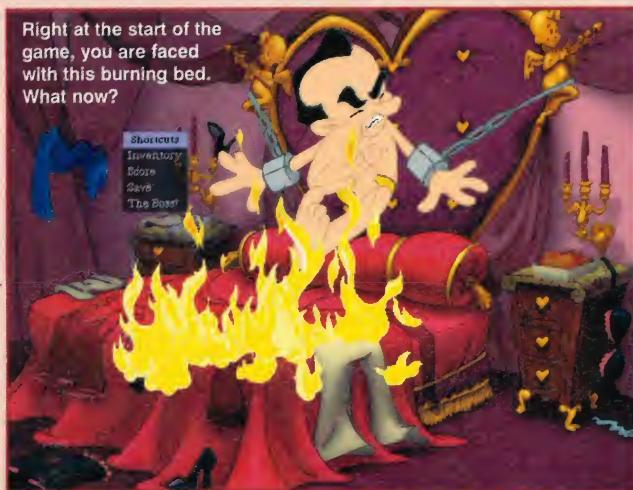
access the menu, your inventory, the map and an update of your score. You'll groan inwardly at the sight of the cursor, a condom which unrolls when over a hotspot, but keep playing and you'll forget about the tastelessness, simply because this is a game packed with variety and often excellent puzzles.

That's not to say the whole of the game meets these high standards, though. For example, there's a game called Where's Dildo (a reference to the popular *Where's Waldo* series) which stars a red-striped love gadget and which requires



Can you persuade Victorian Principles that sex is not to be frowned at?

Right at the start of the game, you are faced with this burning bed. What now?



you to locate it no fewer than 32 times in different locations.

Leisure Suit Larry 7 is the sort of title you'll play, get stuck on but come back to occasionally, solving the puzzle you were stuck on and playing until you get lost again. If you can bring yourself to forgive its sometimes poor graphics and relentlessly smutty humour, you'll find a great game lurking underneath. (AC)

DEVELOPER
Al Lowe
PUBLISHER
Sierra
CONTACT
01189 209111
PRICE
£45
MINIMUM SYSTEM
486DX/66, 8Mb RAM,
double speed CD drive,
22Mb hard disk space.

Well thought out
game marred
only by silly
humour and
sloppy sprite
scaling.

PC REVIEW VERDICT

HUNTER HUNTED

Ever had the feeling you're being watched? It's a bit like the feeling you'll get while playing *Hunter Hunted*. The eyes of a watcher follow you everywhere, zooming around, then scaling in and out at every possible opportunity. It's an interesting graphical effect, but it really plays your eyes up and at times it makes you feel distinctly queasy while playing.

If you've played *Flashback* or *Prince of Persia*, you'll know how good side-on platform games can be. *Hunter Hunted* is a mix of both, featuring the shooting of the former and the jumping of the latter. It stars two characters: Jake, a 'quick, excellent marksman' and Garath the Den, who 'spoke only one word: "pain"'. Or at least that's what it says

in the manual. The differences between the two are minimal, stretching only to different weapons and a slight difference in jump heights. Oh, and one is a huge beast and the other is a human with an outrageously large package.

Ropey collision detection (linked in some way with the awful animation?) means combat is almost devoid of any principle and the game is seriously unfair.

To win a battle, all you need do is manoeuvre your character into the enemy and rapidly hit the attack button. But watch out! Stand on a stripey platform and you'll be thrown, arise first, across the level only to land face first on the floor. Quite disorienting, especially when you consider one level

is called Pinball and can leave you ricocheting around the level out of control.

Multiplayer action comes not via a network or serial link, but rather a split-screen mode. But even on a P133 with 16Mb of RAM, there was still real slowdown.

The competitive mode is further spoilt because, even though *Hunter Hunted* comes complete with its own custom-designed deathmatch levels, you spend most of your time simply looking for your opponent. And when at last you do find him, the game turns into a rubbishy beat-'em up with just one combat move.

Sadly, *Hunter Hunted*'s two-player mode is made of the same junk as the single player game. What utter tripe. (AC)

DEVELOPER
Sierra
PUBLISHER
Sierra
CONTACT
01189 209111
PRICE
£40
MINIMUM SYSTEM
P90, 16Mb RAM, SVGA,
double speed CD drive,
35Mb hard disk space.

Awful collision
detection and
appalling
playability. Steer
well clear.

PC REVIEW VERDICT



Jake ignores the Beast's feeble attempts at ballet. It doesn't get much better, either.



The combat scenes require great skill at hitting the attack button until the enemy dies.



Imagine a game that's a cross between *Flashback* and *Prince of Persia*. But crap.



This is GNN, the TV station that lets you receive details of the sad plight or good fortune of nations around the galaxy.

Nice colonies like these can be destroyed by any willing warlord.



Choose your weapons carefully – those nasty Antarans will always have something up their sleeves.



PROTECTION MONEY

If during your travels you encounter a particularly weak race who you are sure you could easily dominate, why not add a little spice to your relationship by casually asking for technology or money in return for not destroying them? Be careful, though – some races will use this tactic on you.



MASTER OF ORION 2

Yet another galactic strategy title? This one comes from strategy specialist **Microprose, though, so it's bound to be good. Isn't it?**

The domination of space is proving an increasingly popular pastime for many people. Although the current barrage of strategy monoliths threatens to dominate the PC market for many a lunar year, another is shoved in the general direction of the public every couple of months.

Not wanting to be left out, Microprose has cottoned on to this obvious trend and shouted furiously at its programmers to create *Master of Orion 2*, an updated version of the obscenely complicated prequel. But has it inherited its parent's traits?

Sadly, as is the case with many sequels, the game suffers from the same major flaws as its daddy. The sheer mountain of options you are presented with at the beginning of play is very daunting. Even the most avid manual reader (come on, we know what you take to the toilet) will be confused at some point during their first game.

After a couple of hours – during which you will have no doubt had numerous coffee

breaks and stopped breathing once or twice – your empire will start to increase in size as you become accustomed to the finer points of colony management. You'll need to research new technologies such as advanced fuel, hydroponic farms and better weapons to succeed, but you can set the technology level you start off with at the beginning of the game.

Your armoury comes in handy when you're faced with the scary Antarans – a super-powerful race intent on destroying all who so much as sneeze in their general direction. Defeat them and you will conquer the galaxy, attaining the respect of the numerous other alien races as they realise just how damned hard you are.

You need time to research, however, and this being a turn-based game, time passes only when you click the 'turn' button again and again. Want ten turns to pass so you can finish that research? Fine: simply click the button ten times. We defy anyone not to

lose their patience as they realise that creating a crucial colony ship will take 50 turns and they'll have to click that damn button 50 times to get it. The combat, too, is turn-based (not always a good sign) although there is an Auto-Combat option, so you can let the computer take care of it. Despite this, the exclusion of a time lapse feature is inexcusable and means *Master Of Orion 2* often becomes a chore.

In the real world, space is a boring looking place. It's just a black void with occasional white dots. The Microprose version of space, though, is a more interesting phenomenon featuring lots of pretty graphics and 14 unique races unique. The sounds aren't so hot but hey, in space nobody can hear you scream.

Orion 2 is a complex monster of a game, filled with multitudinous waves of things around every corner yet marred by its frustrating turn-based atmosphere and complicated procedures. (AC)

DEVELOPER
Microprose
PUBLISHER
Microprose
CONTACT
01454 893893
PRICE
£44.99
MINIMUM SYSTEM
486DX4/100MHz, 8MB RAM, SVGA, double-speed CD drive, DOS

An entirely competent space domination game marred by a tiresome turn-based playing environment.

PC REVIEW VERDICT



If you win a galactic election you've won the game as you become the ruler of the galaxy.



Your scientists, despite being incredibly ugly, are invaluable in finding new technologies.



When your planets are attacked by marauders from space, you know you're in trouble.



Space combat, despite the clunky turn-based system, is really quite exciting.



Look... in the bottom right corner... the turn button! The evil, malevolent little thing.

**FASTER PUSSYCATS!**

Hyperblade is one of the first Windows 95 games to make use of the latest accelerator-supporting Direct 3D drivers. Which means that anybody willing to fork out on the Matrox Mystique, Creative Labs 3D Blaster PCI, the Diamond Monster 3D, the Videologic Apocalypse, the ATI Expression or any other D3D compatible card can enjoy smoother 3D and full texturing of players and various arenas. It's a definite improvement on the stylish but slightly flat non-textured standard look, but it doesn't really make the game any clearer.



HYPERBLADE

DEVELOPER

Wizbang

PUBLISHER

Activision

CONTACT

0181 742 9400

PRICE

£39.99

MINIMUM SYSTEM

Pentium 90, 16Mb RAM, 80Mb hard disk space, double speed CD-ROM drive, Windows 95, soundcard.

A winner on paper and on screen, but bewildering and tedious in play. Bummer.

PC REVIEW VERDICT**4**

Being a future sport simulation, Hyperblade quite understandably inhabits that alternative reality where noir is king, sports games replace the standard ball with something strange (in this case a glowing thing called a 'rok'), and where bloodshed and high-speed chases go hand in hand. This is also the sort of place where players are strangely polygon-shaped, but that's probably more down to the 3D nature of the game than anything else.

This is ice hockey without the ice, with no-holds-barred punching, tripping and chopping. Plus a smattering of obstacles, lethal and otherwise. Oh, and a thoroughly curved playfield, for that extra bit of inertial madness. Sadly, while Hyperblade is highly watchable, actually getting down into the thick of the action is akin to sticking your head in the spin cycle of the washing machine. While trying to juggle.

Sure the 3D game environments look lovely, but just think for a moment how truly

bewildering things could get if the viewing 'camera' was attempting to track a player belting around a curved arena at breakneck speeds, pulling tight turns, and aerial stunts like there's no tomorrow. Then imagine that the camera often has to swoop round to track the movement of an entirely different player. And just when you've begun to work out which bloody direction you're facing in, you've had to select yet another player, and the camera view has buggered off to the far end of the arena yet again.

Newcomers to Hyperblade will probably find it enough of a challenge working out which goal to aim for, never mind getting hold of the rok and sinking it into the thing.

A real determination to get the knack of the lack of an automatic player change facil-

ity and jittery viewpoints does alleviate the disorientation somewhat. But that only makes the game understandable for long enough for the lack of decent opponent AI to be seen. You can stand around while in possession of the rok whistling dixie, while the computer controlled opponents are all presumably having a quick fag. Which means real fun will only be had in two-player mode, with both sides having spent weeks getting to grips with the thing. Not ideal.

This is disappointing, not least because the future sports angle always promised so much, and in purely visual terms, Hyperblade is the embodiment of future sports

games - fast and fluid with just a touch of abstract. Sadly the messiness of the maiming and decapitating is nothing compared with that of the game design. (MR)



Running the game with a 3D accelerator card transforms the otherwise flat-looking game. The already smooth action gets even silkier.



The rear view cam is nice touch, but doesn't exactly help make things any clearer in play. Instead it just adds to the visual overload.



The arenas are packed with ramps, killer obstacles and the occasional beneficial bit of kit. Mostly they just get in the way, though.



The ambidextrous controls are as bonkers as some of the enemies.



Our diminutive hero must also attempt save the remnants of the human race.



Ultra modern and yet somehow old-fashioned, the updated 3D visuals of Robotron X are spot on.

BACK THEN...



Following the adage 'if it ain't broke, why fix it', you could always opt for the PC version of the original Robotron. It's available on Williams Classics (£29.99 from GTI), which also includes Joust, Defender, Defender II, Sinistar and Bubbles. It's basically the same game, aside from the lack of four-button joystick support. So whether you opt for the original or Robotron X really boils down to how precious you are about snazzy graphics, and whether you prefer the clearer viewpoint of the original. Either way, you can't lose.

ROBOTRON X

Another classic of yesteryear returns for the inevitable 3D treatment. But how will PC REVIEWS treat it?

Ask anybody who was there and they'll tell you that Williams was the name to look for. In the early 80s the name became synonymous with the cream of coin-op machines, largely thanks to the efforts of a Mr Eugene Jarvis. *Defender*, *Joust*, *Robotron* – they were all his babies. And with every game, he found a new way to squeeze playability from minimally equipped technology. It didn't matter that the graphics of the day were a bit minimal, or that the sounds resembled the noise you get from a broken modem.

Because, unlike almost every modern game designer, Jarvis knew how to set up control systems. And with that tricky bit sorted, the rest of the games usually somehow fell into place. *Defender* had that thrust and reverse system, *Joust* had a flap button, and *Robotron*, well, that had two joysticks. No wonder the novice gamer wouldn't touch it with a barge pole.

The game itself may have been little more than a deadly game of tag with guns, but only the elite gamer could hope to master the art of ambidextrous control. Just imagine a game which allows you to fire in a

direction totally independently of where you run. Scary, yet somehow exciting.

This is the all-singing, all dancing, all 3D update of said classic. And while the purists will have misgivings about the very idea of using textured polygon characters and a movin', groovin', forever zoomin' camera system – it is, admittedly a tad more confusing than a fixed overhead view – those with slightly more open minds will be delighted to discover that very little has actually been changed in terms of how the thing plays.

Concessions to modern gaming have been made, of course, what with the introduction of weapon and protection power-ups, and a new bunch of bad guys in addition to the classics. But mostly it's the same old idea; namely to run around a flat, square playfield, saving any humans (simply by touching them) before

the bad guys get to them, and shooting the shingles out of anything remotely alien looking. Which isn't usually hard, because most of them will be making a beeline for you anyway.

That's pretty much it, then. Not exactly state-of-the-art, you may think. But who

needs states and who needs the art? This is where real playability can be found. The tension created by the constant attack of countless enemies is electric, and the learning curve brought about by that unique control system is sheer genius itself. It's also a bugger to get to grips with if you're relying on

keyboard controls, mind, so kit yourself out with a four-button joypad as soon as you can. The four buttons control firing in all directions.

Robotron X has much in common with that other recent update of a seemingly mindless coin-op, *Tempest 2000*. Like that reworking it sensibly doesn't really do much beyond add some psychedelic colour effects, some rattling techno music, and a few bonus levels and power-ups. And like that game, seemingly mindless gameplay hides near-illegal levels of fun and near-infinite longevity. There are, however, some who thought *Tempest 2000* was a complete waste of space, and so *Robotron X* will very probably bore those people to death. But frankly they're the sort of people who should be six foot under already. (MR)



The full-on hurly-burly as viewed from above. Oh, it's toil and trouble all right.



Discerning the distance of approaching robots can be difficult.



Power-ups like shields and multi-directional blasting revitalise the old gaming formula.

Next Month

We'll bring you a playable demo of Robotron X.

DEVELOPER
Player 1 Inc
PUBLISHER
GTI
CONTACT
0171 258 3791
PRICE
£39.99
MINIMUM SYSTEM
486/66, 8Mb RAM,
double speed CD drive,
Windows 95

A lovingly updated take on one of the all-time classics. File next to *Tempest 2000*.

PC REVIEW VERDICT

8

REISSUES

There's gold in them their hills. But if you can't be bothered to walk, check out these bargains instead.

Hot discount news: Blue Byte cuts prices

The price gap between new releases and reissues may be shrinking. Games publisher Attic Entertainment has decided to drop its all RRP to £29.99. Meanwhile Blue Byte's new release, Archimedean Dynasty (awarded an 8 in Issue 63), will retail at £34.99, and its smash hit Settlers II will sell for £29.99. "The only way to ensure a broader appeal for PC CD-ROM products is by dropping the prices," said Blue Byte's UK marketing manager Dene Landucci. "We're confident that our new pricing will further grow the market for Blue Byte's titles." Watch this space for more money-saving games news.

For further information contact Blue Byte on 01604 232200



The classy Archimedean Dynasty has an RRP of just £34.99. Street prices will be lower still.

King's Quest VII

The seventh quest was a massive improvement on the previous six. Most importantly, half the twee sugar-coating of the originals went out the window. If half remained – as a sickly sweet plot starring a pretty princess – at least it came dressed up in some of the best Disney-like animation the PC has seen. The bland, linear storyline and flawed game structure stopped *King's Quest VII* from stealing the crown, but it remains a worthy contender.

£10 • Sierra Originals • 0118 9209100



The Disney inspiration behind *King's Quest VII* isn't hard to spot.

Budget Game of the Month

Links Courses 1, 2 & 3

One of the biggest drawbacks to the *Links* series has always been the paucity of courses. Which makes these expansions disks great value. Each disk comes with two new rounds and all of them are top notch. As well as *Links LS CD*, the discs are compatible with the older versions of *Links* and even Microsoft's *Golf*. Avoid disk two if your handicap is higher than you're IQ – the Devil's Island round is a killer.



Get your round in economically with the new *Links* golf course from Kixx.

£9.99 each • Kixx • 0181 780 2222

BALLS

Two Pinball simulations. One is as good as it could be, the other couldn't be worse.

Psycho Pinball

Pinball games on the PC must be brilliant to beat going the pub for a bash instead. Which suits *Psycho Pinball* just fine. Its four tables offer everything you need – decent layout with glitch-free execution. So the ball doesn't drift inexplicably across the screen. Nor does it suddenly accelerate into a bumper and then fly off at an obscenely impossible angle. Put simply, the ball doesn't behave like it contains a scampering little hamster called Cyril. If you think you should be using your PC to play pinball, buy this game.



Hitchcock didn't make it, but that doesn't mean *Psycho Pinball* can't be a classic.

£12.99 • Codemasters • 01926 814132

Ultra Pinball

This, on the other hand, is perfect ammunition for a global ban on PC pinball. Admittedly that's because its main crime is to be completely unplayable. The general shoddiness of the game engine means that you've almost got as much chance of enjoying *Ultra Pinball* if you shake your monitor about to move the ball. It looks all right, but it plays like a physics experiment in space.



Like love, if somebody gives you *Ultra Pinball*, give them a whole load more back.

£10 • Sierra Originals • 0118 9209100

Shellshock

With a great tank and weapons engine, *ShellShock* looked like being a top tank battle game. In between levels that see you driving around between buildings and shooting enemy tanks and choppers, you got to join in with Da Wardenz, an Afro-American gang devoted to, er... shooting enemy tanks and choppers. When in the hot seat, however, weedy armour scuppered your tank, forcing you to sneak about avoiding enemies. You'll spend more time studying your tanks instruments than watching the horizons for vulnerable targets. As a result, *ShellShock* is more of a slow-building strategy than a knock-down firefight. Not bad, but not the Core Design of *Tomb Raider* vintage. Too bad.



Blam. *ShellShock*. Deadlock.

RETRO PERSPECTIVE

Roberta Williams is a founding member of Sierra On-line, and a massively respected adventure game designer. We asked her to look back on King's Quest VII...

Are you proud of King's Quest VII?

Oh, of course. I'm proud of everything I do. Whenever you release a product you're proud of it and you consider that it's the best work you could do at the time. It still represents that.

But did King's Quest VII change PC games forever?

I think the animation is great. I think the story is strong. It's still a good story and stories don't really change. The puzzles are still very engaging – there's still a lot to figure out. It's a very well designed, playable game and that hasn't changed and that hasn't changed. The only negative as far as today's audience is concerned, is that 3D seems to be really big now.

Would you do it differently today?

I would be doing 3D.

What are you working on now?

King's Quest VIII. Actually we're not going to be calling it King's Quest VIII, it's called *Mask of Eternity*. It's going to be 3D in third person or first person. First person will have a *Quake* look and feel – not as far as gameplay, but the view. Third person will be like *Tomb Raider* or *Mario* [N64]. That's the evolution – how you take something that's an established series like *King's Quest* and keep it going? That's what we decided to do. It's time to join the 3D world and not only join it but advance it beyond what these other games are doing. *King's Quest VII* was written in a very script-like form. This game is much more interactive. We're concentrating more on gameplay. The story is there, but the story is not the big, big, big focus. Therefore it's not written in anything like chapters. It's written as more of a game. There are five different regions you can explore which have their own look and feel but they're not really chapters – not in the sense that you start at the beginning and go to the end.



Roberta Williams. Still proud of King's Quest VII, going 3D for King's Quest VIII.

Unknown Terror

Two classic X-COM games in the heaviest box ever not to contain a dead man. *Terror from the Deep* is really just a marine, graphically superior version of *UFO Enemy Unknown*. But since both games are about strategy and brainwork, not flash graphics, it's of no consequence. The X-COM games are turn based close encounters with extra-terrestrial life. You divide your time between scouring alien isometric crash sites for artefacts and analysing the results back at base headquarters. You'll also get the opportunity to shoot the aliens, thank heavens. And with the two official strategy guides putting the box into the quarter tonne bracket, you can always throw the box at them if all else fails.



Terror from the Deep is one of the best PC strategy games your money can buy.

£44.99 • Micropose • 01454 893893

RANK XEROXING

Two Doom copies that don't make the grade.

Fortress of Dr Radiaki

Before Id software released *Quake*, everyone was inspired to copy a popular shooting game called *Doom*. You may remember it. Now only in the hands of truly great artists can imitation match the achievements of the masters. In the hands of Merit Studios, the result is the *Fortress of Dr Radiaki*. You can't strafe, you can't admire the scenery and unless you're playing in the back of an off-road racer on bumpy ground, the game jerks inexplicably. The enemies are stupid. And Id software has since released *Quake*, the game which everyone now copies.



After the stick wielding, shuriken chucking Ninjas come the green monsters. The *Fortress of Dr Radiaki* isn't very good at all.

£12.99 • Hit Squad • 0161 832 6633

Tekwar

Look, releasing *Doom* clones on budget is about as sensible as releasing wild pumas into the Cotswolds to deal with the bandicoot population problem. *Tekwar* is better than *Dr Radiaki* but that's not really something *Tekwar* would put on its CV. Hi-tech backgrounds just make the pre-*Duke Nukem* engine seem even slower. A much better bet is the *Tekwar* novel. Buy that, and stare at it for ages instead. Still, you get to ride a bus and shoot lots of evil men as well as innocent civilians. This game had William Shatner behind it.



Tekwar. Better than the *Fortress of Dr Radiaki*, and touched by the hand of Shatner, yet still not a temple of 3D wondrousness.

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Necrodome Cheat Codes

Doom in cars. Whatever next. How about a game that isn't *Doom* in any way at all? Hmm? Still, you can always liven this up with these codes. Just press T to open a text box and type 'em in. Easy.

EXCALIBUR: All weapons
SMALLROCKS: Full ammo
VERYSMALLROCKS: Infinite ammo
SHRUBBERY: All gear (health kits, napalm, etc.)
SWALLOW: A full tank of gas
UNLADENSWALLOW: Infinite tank of gas
RABBIT: Shields recharged
IGOTBETTER: Health recharged
KNIGHT: Invincible
COCONUTS: Linear movement
GRAIL: Gives you the arena flag
CAMELOT: Conquers arena
GIMMESOMESUGARBABY: All weapons and gear
ALREADYGOTONE: All arenas become available
ANTIOCH: Kills all opponents



Turn left at the Easter island head then straight on at the stakes. Got it?



What's the insurance like on a little beauty like this? Brutal, probably.



Syndicate Wars



Last month, we completed our two-part solution to this fabulous Bullfrog game. Now, just in case you are still having difficulties with the criminal scum of the world, here's a couple of cheats for the terminally fabulous *Syndicate Wars*. The first is another of those DOS prompt EXE file additions.

Adding the /m switch to the PLAY.BAT file so it will read: @main /w /g /m. Now when you play the game just hit the [.] Key while equipping your agents to add 10,000 credits to your account. Alternatively, yet more goodies await if you perform the following. Enter your

name as POOSLICE then delete it and type your real name (assuming of course that you're not really called Pooslice). Now begin a game. All will appear normal until you press...

[Alt] + [C] which will complete the current mission
 [Shift] + [Q] which renders your agents near-indestructible
 [Q] gives your agents all the available weapons.

Not bad.

Master of Orion II

Orion giving you a bit of gip is it? Beat it into shape with these cheat codes. Just hold the [Alt] key and type these in during a game. What a treat.

Still, it's not that bad is it? Is it? Oh cheer up for Pete's sake!

EINSTEIN: Awards all research
MOOLA: Gives 1000 BC
MENLO: Improves your research rate
ISEEALL: Shows all planets and players
ALLAI: Adjusts the computer AI
SCORE: Gives you the score of your game
LDR: Special secret enhancements
SND: Even more of the above



Sim-style things on an alien world. It's that Master of Orion 2, isn't it?



Time Commando

Level codes. Enjoy.

Roman level: YPTERFGZ

Japanese level: NKTOLVIF

Middle Age level: VMXYICCB

Conquistadors level: FDQLUGGCC

Wild West level: ZREHQFIR

Modern Wars level: FBTAWPFC

Future level: X



Go on, take out that chain-mail-clad ancient medieval assailant-type bloke before he does the same to you!



Suddenly, as if by magic, the shopkeeper appeared. No, sorry, that's the wrong story.

Megarace 2

Megarace. Perhaps the less said about this beauty the better. Nevertheless *Megarace 2*, its new improved follow-up, sports the following cheat codes. They're DOS line codes which means that you must tag them onto the end of the

MEGARACE command to start the game with the cheats in place.

So if you type MEGARACE SPEED MONEY MAP to start your game you'll have the lot. Get it?

SPEED: A faster car

MONEY: \$99,999 when you start a new game

MAP: Shows map of the track while racing

GAME: Skip the intro

NOLANCE: Skip the lovely Lance Boyle

Missionforce: CyberStorm

What? More big robots having fights? Tsk. Will they never learn? In the meantime, try these codes. They're executed in a rather strange way. Open the CSTORM.INI file in your word processor (it's in the game's directory) and type in the chosen instruction on an empty line. Now, when you start the game a new menu item will appear depending on which code you used.

IT'S GOOD TO BE THE KING: Get zillions of credits

HEAL ME: Repair all HERCs and pilots

BROWNNOSE: Skip to the next rank

HERC ME SOME MORE: You can buy any HERC you fancy



Looks terribly exciting, doesn't it? Or does it just look terrible?

SkyNET

The follow-up to the fabulous *Future Shock* uses some startlingly similar cheat codes. Hit [Alt] and [.] at the same time to switch on a cursor. Then type these in.

ARNOLD: Gives all weapons

SUPERUZI: Get the Super Uzi

ILLBEBACK: Skips to next scene

ICANTSEE: Shows an image intensifier

WHOAMI: Shows your name

COUNTERS: Shows current co-ordinates

VERSION: Shows version number

HELLO: Shows hello message



Ah, there's nothing quite as fulfilling as razing a large building to the ground with a large gun. Mmm, nice.

Warcraft II

Just a tiny one. This rather pointless cheat only works for the *Beyond the Dark Portal Expansion Set*.

Press [Enter], type in the code, and press [Enter] again.

DISCO: Play a rather inappropriate rock tune



Two heads are better than one. Which makes cutting both of this fella's bounces off a priority. Top PC REVIEW tip – use the sword.



Follow the tip above and your mediaeval mayhem will be accompanied by some fearsome speaker-based boogie. Won't change the game, though...

"Either Core has some insomniac level designer clicking and twitching his way through an equally impressive number of levels for the sequel, or it's banging its head on the table in disbelief, not quite believing it could have been so dumb as to give away so much in just one game." — PCR63, Christmas 1996.

TOMB RAIDER

Here's the final part of our Tomb Raider guide.
Don't go thieving artefacts without it...

Part Two

LEVEL 8 — CISTERNS



Take that you slimy French swine! Keep an eye out for Pierre — he's a real pain.

8 Push the block forward twice into the next room and throw the switch. Enter the white door then return and climb down the hole into the next room. Climb the ledges here to find Rusty Key 1.

Next, leap the pillars (avoiding Pierre) and scale the ledges to find a slide by a water hole. Jump into the water. Swim through the tunnel and climb to find the second Rusty Key.

Climb the stairs and cross the bridge to find a door. Unlock it with a Rusty Key. Go through and climb up to find a crevice. Grab it and shuffle right then drop onto the ledge. Turn right and drop through the hole. Climb the wall then grab a crevice and shuffle left to the white door. Throw the switch and enter.

Fall into the green hole then climb the stairs and find a switch. Throw it to open the gold door below. Enter and find the Silver Key. Next jump into the water and swim to the central chamber. Run up the stairs into the pipe room. Jump into the hole in the floor to throw

the switch on the far wall, flooding the entire level. Return to the central chamber and swim to the right until you enter a narrow tunnel. At the surface search the edges for a switch and pull it to open a door below you. Swim through to find another Silver Key.

Use the Rusty key on the door to the right. Take the Gold Key. Go back and find a white door. Unlock it with a Silver Key the go through and right. Climb up the ledges, kill an ape and use the Gold Key to open the door below you. Go through and use the movable block to reach a switch and a ledge. Fall into the hole to finish.

LEVEL 9 — TOMB OF TIHOCAN



And you thought the crocodiles were bad. When swimming, avoid the rats.

9 Swim and find the lever which will lower the water. Go to the upward hole, pull the switch to open the door. Climb up the stairs and leap to find a switch to flood the room. Swim then climb onto the white block. Jump into the water at the end and find and throw a switch which turns on a current. Swim forward and climb out. Climb and find a swinging blade and enter the tunnel and shoot Pierre. Go down the stairs and shuffle right on a ledge then climb up. Go in the tunnel and pull the switch to flood the chamber. Swim through and throw the switch.

Climb up to the gate and grab the Gold Key and jump the blocks. In the writing room pull the block to open a door. Climb onto the block in the room and jump up to the door. Run through the slicer and pick up the Key. Go back to the writing tiles and drop to the floor. Push the block once away from the ledge, go to the other side and pull it

once onto the tile. In the rat room, push the block away from the closest wall onto the final writing tile. Turn around and run to the open door, run across and collect the Rusty Key.

Go into the main room and to the door with locks on either side, use the Rusty Keys then swim through the tunnel and climb the cliff to find a switch. This will open an underwater gate. Swim beneath the temple and through a hidden tunnel along the back wall. Throw a switch on the wall to open the door.

Next return to the temple and kill Pierre. Take the second Scion and the Gold Key then climb the ledges and unlock the exit door.

LEVEL 10 — CITY OF KHAMOON



Nice scenery, but there are crocodiles lurking around every corner.

10 Pull the block and enter the tunnel. Climb to the cave entrance guarded by a panther then slide down the slope to the foot of the sphinx. Make your way from the left paw around to find a tunnel and the Sapphire Key. Pull the block between the Sphinx's legs, enter the tunnel and use the Sapphire Key. Keep going (avoiding a rolling rock en route) then jump into the water in the corner and pull the switch to open a door. Use a block to reach the ledge below the door, pull up and run up the stairs in the room. Throw the end switch to extend the bridge. Use another block to enter the room with the mummified cat then throw the switch to open a trapdoor above the golden ledge. Use the block to reach the golden ledge. Now jump up and climb into the door in

the ceiling and use the switch up there to open the door by the statue. Do a safety drop to the green ledge and then another to the floor. Enter the door (without stairs) and drop down the hole. Throw the switch in the corner to illuminate the room.

Climb back up to the bridge and run into the lit tunnel next to it. Climb the pillars to get the Sapphire Key. In the next room climb up and throw the switch. Jump your way back to the entrance and slide down a long slope. Walk up on the right hand slope into a room. Use the Sapphire Key to finish.

LEVEL 11 — OBELISK OF KHAMOON



Magnums are your best bet against panthers — they take plenty of hits, too.

11 Find the room with four pillars. Push the block to the left to then swim and find the Sapphire Key. Return to the pillar room and go to the door in the corner to the right of elevated door in the wall. Use the Sapphire Key to open the next door then enter the Gold Door. Use the switch in the left corner to lower a bridge. Cross it and get the Eye of Horus. Swim again, then enter the tunnel opposite the Gold Door.

Jump to the stone bridge then make your way up to the mummified panther thing. Kill it. Use the switch by the pillars to lower another bridge. Drop down to the left then slide down to find another stair-activation switch. Climb the stairs then jump over to the ledge and across the bridge to the Ankh. Next return to the ledge, go past the door and use the switch. Enter the new chamber, climb the stairs then jump to the crevice on your right and shimmy right to the ledge. Enter the





"Flight Sim for Windows 95 is a flight simulator which requires a thorough understanding of the basics of flying an airplane and navigating it through various scenarios and weather conditions." — PCR64, January 1997.

FLIGHT SIMULATOR

Attain mastery of the skies with our top guide to Microsoft's latest flight sim.

for Windows 95

The new and improved, whiter-than-white *Flight Sim* for Windows 95 boasts an entire catalogue of useful information in Pilot's Help, the on-line help system. But although it's jam-packed with videos, animations and chunks of text that explain everything from ILS navigation to Zulu Time and how to loop the loop, here at PC REVIEW we've compiled a few Cessna-powered ideas that will help you get more enjoyment out of what people everywhere are already beginning to call FS6.

GIVE ME MORE
Need more information? Got a modem handy? Why not check out these Flight Sim-related web sites....

Compuserve Flight Sim Forum: Go FSFORUM

Microsoft Network (MSN)
Flight Simulator Forum: Go FlightSim

World Wide Web
<http://www.microsoft.com/games/fsim/>
<http://www.microwings.com>
<http://www.cobb.com/fth/>

1 LOOK NOW, LOOK ALL AROUND....

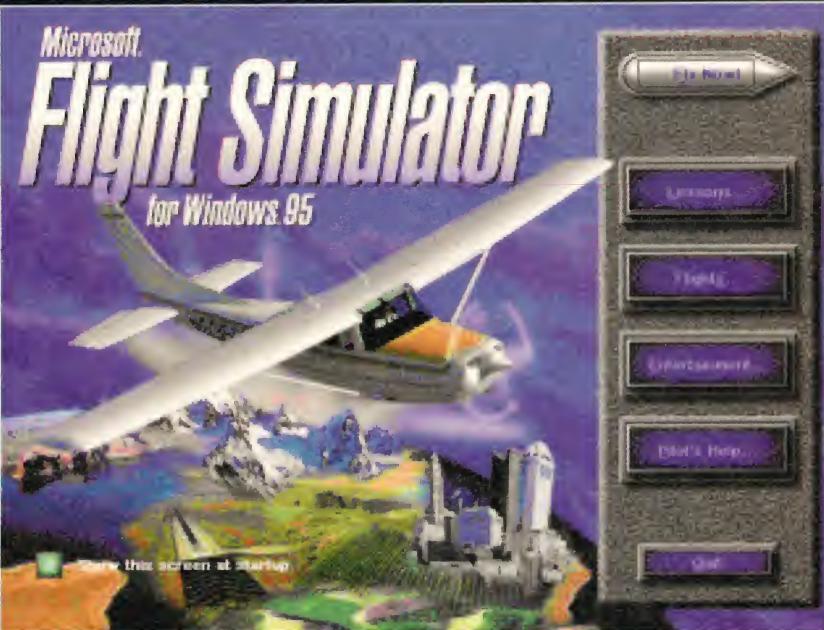
Why clog up your view of downtown Manhattan or Tower Bridge with the instrument panel? To get a cinematic-style view of your surroundings, hold down the [Shift] key and press a number on the numeric keypad. This allows you to blank out the dials and switches and to get spectacular views as if you had cameras on the wingtips or looking over the tail.

2 COME FLY WITH ME....

Once you've experimented with the different internal camera views, the spot plane viewpoint should be your next port of call. Simply hit the [S] key twice to initiate the view, which you can rotate and zoom in and out of by holding down the [Shift] key and pressing keys on the numeric pad. Note that your plane is still fully controllable in this view.



Seasoned adventurers always choose the classy Lear Jet.



Not a lot of people know it, but Flight Sim is one of the world's best selling games.

3 SAY CHEESE!

If you've got a spectacular view lined up and you want to save it for posterity, hit the [Print screen] button to instantly save a screenshot to the Windows clipboard. To view the image, switch from *Flight Sim* for Windows 95 to a graphics program like *Paint Shop Pro* or *Windows Paintbrush* and paste in the vista you have saved.

If you fancy getting a more advanced record of your *Flight Sim* prowess, you can even film your best landings, turns, crashes and near-misses using the *Flight Sim* video option. Call up the options menu and select Flight Video to activate this option. You'll find everything you need to know about it under the topic Recording a Flight Video in the Using Flight Simulator section of the on-line Pilot's Help.

4 POINT AND CLICK

Although you don't tend to use the mouse very often when playing *Flight Sim*, if you ever forget what an instrument is or what a lever does (and you don't want to jettison your fuel load instead of lowering the landing gear), move the mouse cursor over the item that you want explained, and click the right-hand mouse button. A brief explanation of the technology will appear, plus links to more information in Pilot's Help should you need to know more.

5 FLY FASTER, FLY BETTER

If you're a beginner to *Flight Sim*, it's a good idea to spend a couple of hours browsing the Airplane Handbooks section of the Pilot's Help feature. This large section includes various historical information,

THE 737: 1-2-3-GO!!!

If you're the impatient type and you want a bit of excitement straight away, click on the Aircraft option and choose the Boeing 737-400. To optimise the scenery click on World, then Scenery Complexity. Go to Image Complexity, click Very Dense (if you've got a decent spec PC) and then click on OK.

Now you're ready to take off. Take the parking brakes off (by pressing the trigger button on the joystick or the [.] key), switch the engines to full power (press the [Page Up] key several times) and pull back gently when the speed reaches 150 knots. Climb to a decent height, say about 3000 to 4000 ft, raise the landing gear by pressing [G], and then level off. Click the Views menu, select View Options, and then Spot Plane. Type in +350 when prompted for Distance and click on OK. That's all there is to it. Now try and loop the loop...



THE LATEST NEWS....

- The first expansion pack for *Flight Sim For Windows 95* is now shipping in the US, entitled Southern California. The scenery disc covers terrain from San Diego to Los Angeles, taking in the western coastline and everything to the east as far as Palm Springs. In addition, the pack adds a number of ATC (Air Traffic Control) plus some new challenges and adventures. Look out for it at your local games retailer.
- There have been some queries about the compatibility of *FS95* with older *Flight Sim 5.1* products. Some of it has been true and some of it hasn't. Here's the low-down... *FS95* is 100 per cent compatible with the Southern California Expansion pack mentioned above, as well as the previous Microsoft add-ons such as Hawaii, the Caribbean, Japan and Scenery Pack 1. *Flight Simulator for Windows 95* includes a special setup routine to install these products and disables the appropriate default areas when they are loaded. Please note that the New York and Paris packs and the BAO-designed Las Vegas and Washington DC scenery products are part of Microsoft *Flight Simulator for Windows 95* as standard, so you don't have to buy these add-ons separately.
- Scenery add-ons designed by MicroWINGS, BAO, and Apollo are also compatible with *Flight Simulator for Windows 95* and there

are detailed instructions in the README.TXT file to help you install the packs. As far as user-developed scenery made using *Flight Sim 5.0* or *5.1* is concerned, anything is compatible with *FS95* but must be installed manually using the Scenery Editor. Again, the README.TXT file should answer any queries.

- New aircraft and adventures are not compatible with the Microsoft *Flight Simulator*, however Microsoft has made available a converter to overcome this problem. This piece of software is available free from the Microsoft Web site at <http://www.microsoft.com/games/fsim/>.
- Instrument Panels designed to replace default panels in *Flight Simulator 5.1* are not compatible with *Flight Simulator for Windows 95* either. The basic program code has changed from 16-bit to 32-bit and so as the designs rely on 16-bit code and artwork from the earlier *Flight Simulator* version, you can't use them with *FS95*.
- Lastly, and indeed sadly, Microsoft has no plans to develop tools or utilities for the end user. However, Microsoft representatives have been quoted as saying that the company "understands and appreciates the commitment that enthusiasts have shown to *Flight Simulator* by creating exciting airplanes and detailed scenery and hopes to support their efforts in the future." How nice of them. But how much do they really care?

specifications, checklists, facts, figures, plus tips and advice on how to take-off and land smoothly. Each aeroplane in the game is covered, so before you try and land that passenger jet at Heathrow, it's a good idea to see how it should be done before you turn several tonnes of Boeing-designed metal into a lawn dart.

6 ADVENTURES AND STUNTS

Although it's tempting just to get up into the air and throw your plane around the sky when you first start playing *Flight Sim for Windows 95*, it's advisable to check out the Entertainment section of the Flight School section. Whereas the basic flight school will hold your hand through several basic manoeuvres (taking off, landing, Cuban Eights, etc), you can also learn how to perform stunts and aerobatics from Patty Wagstaff, three times a US Aerobatic Champion and one of the most famous stunt pilots in the world.

7 MAKE IT HARDER

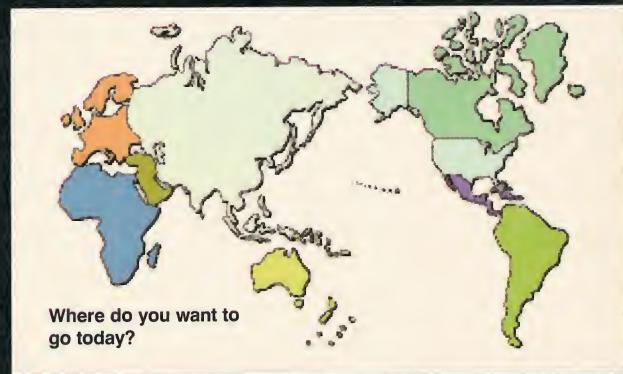
Getting a bit cocky eh? Well, when you're confident of your flying skill, you can make your experience in the cockpit as real as it gets by turning off the Auto Coordination option. To control the ailerons and rudder separately, click on the Realism & Reliability option on the Aircraft menu and click on Auto Coordination. Now let's see how you handle a Sopwith Camel in a thunderstorm now...



Bother Newt Gingrich by buzzing Congress.



Aerobatics expert Patty Wagstaff will help you get to grips with this stunt plane.



Where do you want to go today?



Make this awesome cockpit control panel disappear with a simple keypress. It makes the views a lot more enjoyable. (See Look Now, Look All Around.)



To maintain a handle on the plane's orientation during a stunt, keep an eye on the little triangle attached to the plane's left wing.

GAMEplay

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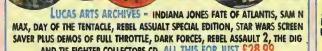
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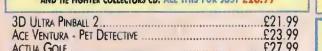
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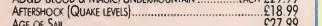
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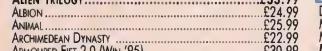
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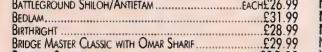
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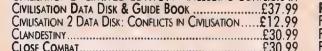
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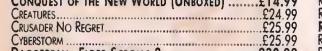
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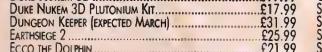
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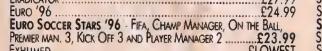
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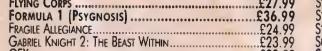
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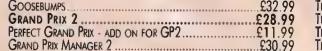
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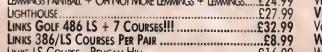
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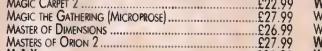
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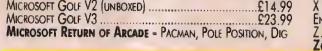
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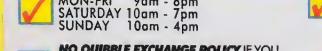
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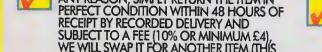
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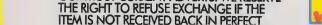
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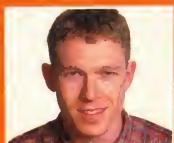
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CD ROM GAMES

Pierre-August Renoir's joyous *Dancing at the Moulin de la Galette* (1876) is one of the best examples of impressionism in the Musée d'Orsay. Note the effect of the light through the trees.

MULTIMEDIA



It's 1997, and people are sounding the death knell for the multimedia CD-ROM. And who could blame them? The vast majority of discs that have been released since CD-ROM hit the big time three years ago have been decidedly poor. Consequently, the companies that made these standard offerings have lost money and even gone out of business. It's the law of the market, really.

But it's not all doom and gloom. Once all the dead wood has been stripped away, those publishers which have consistently produced good multimedia discs will continue to prosper. Almost certainly there will be fewer CD-ROMs released in 1997. The standards among them, however, will very likely be higher.

Here at PC REVIEWS we're looking forward to a leaner, meaner year for multimedia. And as long as good discs keep coming out, we'll keep reviewing them.

Garrick Webster
Deputy Editor
gwebster@futurenet.co.uk

MUSÉE D'ORSAY

A French national treasure and one of the finest collections of 19th Century art in the world, the Musée d'Orsay has been captured on CD-ROM. But will PC REVIEWS be impressed?

After Le Louvre, Paris's second great art gallery is the Musée d'Orsay. But while Le Louvre was built around an ancient keep and is said to encapsulate French architectural and artistic history, the contents of the Musée d'Orsay are much more narrowly defined.

Housed in a grand old railway station, the Orsay collection consists mainly of impressionist and post-impressionist works. You won't find gothic, renaissance or baroque paintings in there. Instead, it offers what is reputedly the finest collection of 19th century artwork in the world. Big names include van Gogh, Cézanne, Renoir, Toulouse-Lautrec, Monet and Rodin.



Note the changing lighting conditions across the five Rouen Cathedral paintings held at the Orsay.

Having already put created a rather fine CD-ROM on Le Louvre, Montparnasse has again teamed up with France's Réunion des Musées Nationaux and moved on to make this virtual visit to the Musée d'Orsay. With it, you'll be able to inspect over 200 paintings, read up on 120 artists, and take a virtual reality tour of the building itself. Like the previous disc, *Le Louvre, Musée d'Orsay* is beautifully presented. And it should be really, with all this fantastic artwork to hand.

To understand impressionism, the art movement behind the key works held in Orsay, it's probably best to head straight to the Impressionism section of the disc and have a look at Claude Monet's Cathedral of Rouen paintings from 1892-93. Five pieces from the series of 30 are held at the Musée, each a painting of Rouen's Cathedral at a different time of day. As the narrator explains, what Monet aimed to do was not

to glorify the building's gothic architecture, but to capture the atmosphere of changing lighting conditions and traces left by the passage of time.

This, perhaps, is the essence of impressionism – not to paint extremely accurately so as to compete with the camera, but to do so subtly, paying the utmost attention to light, colour variations, and visual sensations. Rather than giving the viewer an immaculate picture of an object, the point was to leave an impression of the beauty of the moment. The disc could probably explain this a little more explicitly, but it will give you a general idea of what the artists hoped to achieve. Moving along, you can watch a narrated slide show on Monet's Rouen Cathedral paintings which compares the five held at the Musée d'Orsay and reiterates the importance of how light is treated.

If you wish, you can also zoom right in on one of the Rouen paintings to examine the brush strokes in more detail, though the usefulness of this is limited by a loss of

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MUSÉE D'ORSAY

OBSCENE?

Always bound to spark a pornography-is-or-isn't-art debate, one of the Musée d'Orsay's most infamous paintings is the *Origin of the World* by Gustave Courbet. Basically, it is a painting that frankly depicts a naked female body, centring on the genitalia as viewed from below. Since acquisition by the gallery, the picture was kept hidden away for private viewing. In June 1995, however, it was brought out into the public section of the gallery. The Musée d'Orsay CD-ROM, meanwhile, has numerous features relating to the *Origin of the World*. It even invites you to magnify the work and look at it close up. Needless to say, we're not going to reproduce the painting here. You'll just have to get the disc or go to the gallery.

Oh starry, starry night

The Musée d'Orsay recently acquired Starry Night, one of Vincent van Gogh's most famous paintings. Here's what you can learn about this great piece of art from the disc...



Painted in 1888, Starry Night depicts a night scene over the Rhône, capturing the shimmering of the stars and glistening of the water. Night proved to be a recurring theme in van Gogh's later paintings.



With the Magnify function on the picture's information screen, you can zoom in on the details, although the resolution is a limiting factor. The narrator notes that the people in the foreground give the painting perspective.



Because paintings are all displayed at roughly the same size on your monitor, guessing how big they are in real life is hard. Thankfully, there's a scale feature that tells you the dimensions of each work.



Finally, the screen devoted to Starry Night is linked with a narrated multimedia presentation all about 19th century salons and exhibitions. Van Gogh, we learn, had trouble getting this work shown.



A key feature of Musée d'Orsay is the virtual visit. Using QuickTime VR, it enables you to wander the halls of the gallery. It's not bad, but it's not terribly useful for finding paintings.

► resolution the closer in you get. You may also hear a critical comment on the work read out by a narrator, or zip off to a biography on Monet himself.

Here you'll find a self portrait of the man and links to several other paintings by him, plus a text biography. This, unfortunately, is presented as one long paragraph. "His entire life was marked by a search for favourable places to paint," it says, going on to describe Monet's struggle to get his works displayed at the annual Salon held by the now defunct Palais d'Industrie, and his involvement with other artists like Manet, Sisley and Renoir.

their main paintings and so on, but are too dry and factual. A few anecdotes and further elaboration would certainly have livened them up. You'll learn, for instance, that Monet had an influential neighbour called Clemenceau. Now, the disc could be referring to the Clemenceau who led France during World War I, but it doesn't say. Greater clarity and background are required.

Aside from the key sections on impressionism and post-impressionism, Musée d'Orsay offers heaps of information on closely-related 19th century schools of art like symbolism, realism, romanticism, naturalism and art nouveau. One interesting



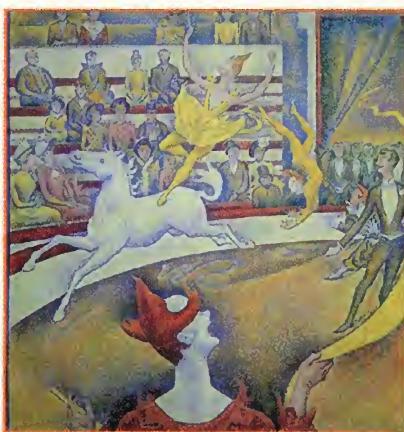
Paul Gauguin looking solemn in a self-portrait.

inclusion, however, is an entire section devoted to photography. It is surprising to find that while many artists of the time were looking for ways of offering colourful alternatives to photos, some of them also entertained a healthy interest in taking pictures. Among the photos on the disc, you'll find Victor Hugo on a Rock in Jersey taken by his son, and Pierre Bonnard's *Martha in the Tub*.

There are also a few taken by Felix Nadar of the poet Charles Baudelaire. Because Parisian life was a key topic for Baudelaire, his image is in turn linked to a documentary-style presentation all about Paris and the arts. Alongside him appear Renoir, who painted scenes of dancing, and Toulouse-

Further information

Though the biographies of the artists give you the major facts – such as significant dates, where they studied art, the names of



Georges Seurat's pointillist style, surprisingly, doesn't get much representation on the disc.



It's not just paintings. The Dancer, by Edgar Degas, was considered a cheeky statue.



Paul Cézanne. His family funded his art career. Today the dealers profit from it.



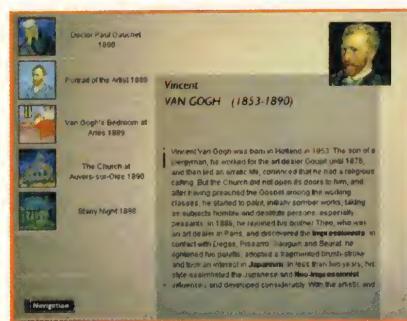
Even Frank Lloyd-Wright makes an appearance. He designed this chair.

Lautrec, who enjoyed the shady universe of nightclubs, dancers and prostitutes at the core of the city. There are several such presentations which thread paintings and artist together via logical themes. The documentaries are informative, but you probably won't sit through them more than twice.

Added dimensions

Another surprising aspect of the Musée d'Orsay is the number of sculptures it includes. One doesn't normally associate statues with the impressionist movement, but artists like Degas were almost as interested in sculpting as they were in painting. The most interesting is probably Rodin's *Thought* – a block of stone with a head attached to it.

Whereas the screens devoted to particular paintings allow you to zoom in on them,



Van Gogh's famously troubled mental state only gets a couple of vague sentences.

the ones detailing sculptures instead offer four different angles of view. Indeed, using QuickTime VR technology, Musée d'Orsay not only gives you the chance to learn about the works held by the museum and the various schools of art that created them, it also invites you to explore the gallery itself, although the movements available are much more restricted than those of *Versailles 1685* (reviewed last month).

Nevertheless, the VR view will give you an idea of how the gallery is laid out, and you do get to see the various artworks in their proper curatorial context. But although you'll see hundreds of pieces hanging on



Rodin's *Thought*, it's claimed, represents the mind's difficulty escaping the material world.

the walls you often won't be able to tell what they are or who painted them. Musée d'Orsay is nevertheless an effective multimedia art gallery. It's at least as good as the other great disc full of 19th century art, *A Passion for Art*.

All the crucial works are here, along with enough information to help you appreciate them. The biographies could be longer and more interesting, but the animations and multimedia documentaries make up for this somewhat. And you can call up a guide at any point who suggests other paintings to look at based on the ones you've thus far shown an interest in. A very enlightening disc. (GW)



Maxime du Camp took this photo of the Nile. Musée d'Orsay contains many photos by artists.

▲ The beautiful *Family Gathering* (1867) by Frédéric Bazille is considered to be a pre-impressionist work. Note how the dress of the lady in the middle reflects the sky.

DEVELOPER
Montparnasse
PUBLISHER
BMG
CONTACT
0345 002000
PRICE
£39.99
MINIMUM SYSTEM
486, 8Mb RAM, SVGA,
double-speed CD
drive, Windows 3.1

A fine way to appreciate 19th century art. Definitely worth considering.

8

PC REVIEW VERDICT

Building a virtual Paris

No country is as keen on making its national treasures available to the public using multimedia as France. In fact, the arrival of Musée d'Orsay on disc

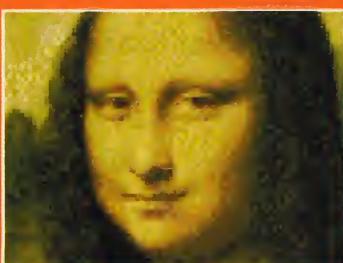
rounds off a trio of French cultural CDs that come together to form a rather nice multimedia visit to Paris.

First there was *Le Louvre*, a CD-

ROM detailing the architectural development of France's premier art gallery, not to mention the artworks in it. Then, just last month, we got our hands on

Versailles 1685, a virtual reconstruction of the great palace at Versailles, which was home to Louis XIV and his court.

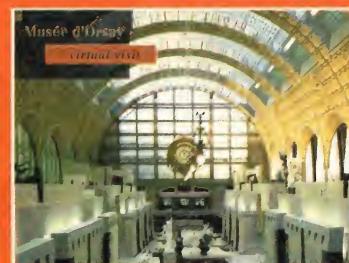
The latest ripple on this stream of Gallic splendour is the *Musée d'Orsay* disc, also by Montparnasse. And the common thread? Well, it's none other than France's Réunion des Musées Nationaux, the organisation which runs and maintains the country's finest museums. It collaborated with the makers of each of these discs. So when the National Trust or English Heritage will get their acts together and honour some of Britain's great artworks in the same way?



You can see the Mona Lisa by booting up *Le Louvre*...



...and witness splendid Baroque art and architecture with *Versailles 1685*.



And finally, no art lover should pass up a stop at the Musée d'Orsay.

THE HUTCHINSON ENCYCLOPEDIA OF MUSIC



Fittingly, the main interface for the disc is the keyboard down the left hand side of the screen. Each key represents a different submenu. Hurrah.

DEVELOPER
Helicon
PUBLISHER
Koch
CONTACT
01420 541 884
PRICE
£39.95
MINIMUM SYSTEM
86, 8Mb RAM, 8Mb hard disk space, SVGA, double speed CD drive, Windows 3.1 or 95

Reasonably good content, but uninspiring considering the subject matter.

PC REVIEW VERDICT

4

PCR QUIZ

Yes. It's back, and this time you have to name three famous composers from these admittedly rather bad pictures, supplied by the disc.



1. Mozart 2. Bach 3. Brahms

Theatres
Covent Garden Theatre
London theatre. First house opened 7 Dec 1732, burnt down 19 Sept 1753, reopened 10 Dec 1753. Reopened 5 Mar 1808, under General 15 May 1850. From then it did not become a regular opera house until 1847, though opera had long been performed in it (e.g. Handel's first season there in 1734 and Weber's Oberon in 1825). The first work in 1847 was Rossini's *Sonnerade*; it became the Royal Opera in 1852 and had annual seasons, wholly in Italian at first, but later in French and German also, until 1914, and again between 1925 and 1940. (Handel's 1734-50 seasons were at a dance hall 1740-45 & re-opened as a national opera house in 1946. At first opera only in English was attempted, but this impractical course was soon abandoned for productions in the original language.) A trial production of *Die Walküre* under the administration of David Webster, then John Torday, has therefore been developed. Jeremy Isaacs appointed General Administrator 1987, with effect from 1989 (returning 1997). Subtitles were introduced and Nicholas Payne became Opera Director 1993.

The Covent Garden Theatre is one of the oldest in the land. Pity there's no picture of it.

Considering this disc refers to Luciano Pavarotti as the greatest lyric tenor of his generation, the *Hutchinson Encyclopedia of Music* certainly doesn't make much of it. There is barely any text on Pavarotti, there's no biography, not a discography in site and neither are there any clips for us to hear the great tenor at work. All you'll find is a photo and a cursory listing of the operatic roles he's played and his major appearances.

Despite containing some 11,000 entries, the *Hutchinson Encyclopedia of Music* is an uninspiring CD-ROM. In fact, it's not much more than a huge database of definitions with some sound clips and photos thrown in to make it a multimedia product. It's not that the information is bad or inaccurate, and undoubtedly there is a great deal of it on offer. The trouble is, there's nothing here to

MUSIC

Multimedia publishing has the potential to democratise high culture. Can this CD on classical music enlighten us?



Huh - no mention of Pavarotti's great love of cheese or his famed goaltending capabilities.

tantalise users or draw them into the content of the disc. Go to the keyboard section of the instruments menu, for instance, and you might learn that a harpsichord's notes are produced by plucking strings with a plectrum rather than hammering them in piano fashion. You'll even see a picture of a harpsichord and can listen to both fast and slow melodies being played on one.

Some of the entries in the composers section manage to be even more interesting. The entry on Shostakovich, for instance, compares *Pravda's* appraisal of his music with that of the *New York Sun's*. "The listener is from the outset confused by a stream of deliberately discordant sounds, singing is replaced by screaming. The composer escapes into the jungle of musical confusion, with grunts, quacks and growls," said the Soviet rag. "The composer has written music



The cello is clearly highly-regarded here, being afforded an amazing five separate clips.

which for realism and brutal animalism surpasses anything else in the world. Shostakovich is without doubt the foremost composer of pornographic music in the history of art," was the comment from the *Sun*.

On the whole, though, the entries are dry and factual. Many are dominated by lists of works rather than anything insightful on the people in question. You're not even told, for instance, if Shostakovich was married.

This is a reference disc and nothing more. It makes very little use of the presentational advantages offered by multimedia. Although heavily focused on classical music, it is almost totally bereft of elegance. Had Dorling Kindersley created this disc, it might have been a visual and informative journey through the world of classical music. Instead, we have a CD-ROM that's a little difficult to use, with dull content. Shame. (GW)



Definitions of musical terms are often accompanied by demonstrations that use sound clips as well as diagrams. Here's an alberti bass movement as carried out by Mozart.



Stalin said Shostakovich was bourgeois, the bourgeois said he was strange. You can't win.

GUITAR

The follow-up to *Guitar Hits* is dedicated to the Beatles – is it for fans only or can anyone join in?

HITS

VOLUME 2



Seven great Beatles songs, arranged entirely for acoustic guitar, for you to learn, practise and play around a log fire at beach parties.

Guitar Hits Volume 2 won't teach you how to play guitar from scratch. You need to know standard playing techniques, some elementary chords and have confidence in your ability to learn new songs. But once you've reached a basic standard, this is the place to turn. It teaches you how to play seven Beatles songs on the acoustic guitar: *Across the Universe*, *Blackbird*, *Let It Be*, *Michelle*, *Norwegian Wood*, *Yesterday* and *You've Got To Hide Your Love Away*.

As with the first volume of *Guitar Hits*, it uses a comprehensive system of tuition, using high quality audio, with guitar tablature and music notation scrolling horizontally in time with it, plus a window showing full-motion video of the fingerings on the fretboard.

This multimedia approach lets you learn the songs on the disc the way you like to learn. It perfectly exploits the fact that many people teach themselves music by a combination of listening and watching, while sometimes needing some more specific reference

for the trickier passages. And if any particular parts of the song cause you problems, you can skip easily to the lessons section, where the song is broken down into the techniques required to play it, such as finger picking, muted notes, hammer-ons and barre chords. You'll even find an explanation on how to read tablature.

However, the real beauty of this program lies in the smooth integration of all aspects

of the software. If there's a chord you don't know, just click on its window and you'll hear it played for you, while the correct fingering is highlighted on screen. You don't

have to leave the program to tune up, you can practise at different speeds thanks to the adjustable metronome, and there's a facility to record yourself to check on the progress you're making.

The chosen songs should be familiar to everyone, and they represent a fine cross section of styles and techniques, even if they

are all by the Beatles. Some are direct transcriptions of the originals, others are given more licence. For example, the version of *Norwegian Wood* is deprived of its last verse (a crime when you consider its relevance to the title of the song), and the originally piano-led *Let It Be* is arranged entirely for acoustic guitar.

But niggles about *Guitar Hits Volume 2* are bound to be petty compared to the enormous benefit this extraordinary tuition package has to offer. Every aspect of its design and structure is thoughtfully shaped and beautifully delivered, and by teaching classic songs it manages to instruct the learner in a multitude of playing techniques that will prove extremely useful in other playing situations.

The only people who wouldn't like this program are those who a) hate the Beatles or b) know everything there is to know about playing guitar. Seeing as a) is a ludicrous proposition, and b) only applies to John Williams, we advise the rest of you to track this CD down and immerse yourself in it immediately. Another major winner from the *Guitar Hits* factory. (TT)

LET IT BE
Of all the songs on *Guitar Hits Volume 2*, only one was released as a single for the Beatles – *Let It Be*, the last of their entire career. All the others are well-known tracks from their 13 albums, although *Yesterday* was released as a single in the USA.



This page enables you to master the basics of the song, with just the lyrics and accompanying chords – great for beginners.



You can use cursors to mark the section of the song you want to work on.



Video, guitar tab and chord boxes provides everything you need to learn the songs.



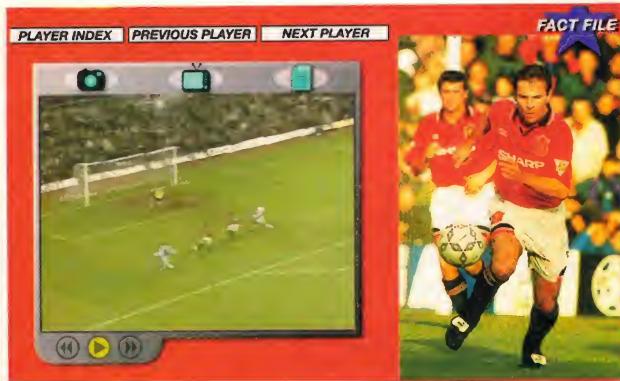
If you're a beginner, you can study these instructions on reading the notation used.

DEVELOPER
Ubi Soft
PUBLISHER
Ubi Soft
CONTACT
0181 944 9000
PRICE
£39.99
MINIMUM SYSTEM
486DX66, 8Mb RAM, Sound Blaster or compatible, CD-ROM drive

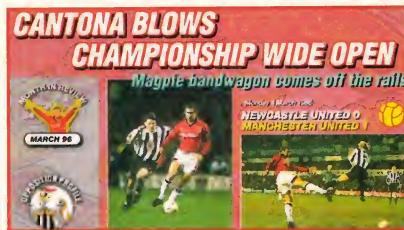
An excellent use of multimedia. Highly recommended.

PC REVIEW VERDICT

9



Video clips such as this one are littered around the program.



The year's major matches are reported on in this comfortable newspaper style.

Countdown to Victory

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

MAY 96

IT'S THE DOUBLE!

Stalemate broken by piece of Cantona magic

Saturday 11 May 1996
MANCHESTER UNITED 1
LIVERPOOL 0

ALEX FERGUSON
MANAGER

MatchQuiz

PLAYER RECORDS
END OF SEASON!

Premiership Stats!
END OF SEASON!

It sure is!

THE DOUBLE DOUBLE

The biggest team in Britain step forward onto CD-ROM. Can they perform as well on disc as they do on the field?

DEVELOPER
VCI
PUBLISHER
VCI
CONTACT
0171 470 6666
PRICE
£24.99
MINIMUM SYSTEM
486, 8Mb RAM, VGA,
Windows 3.1

A well-presented but pricey alternative to the footy mags, books and videos out there.

PC REVIEW VERDICT

6

FANCY AN EAR BASHING?
If you really want Manchester United supporting children to be happy, you could do worse than to pop in the second CD included with *The Double Double* and let them watch the video for *Move Move Move*, the promotional song featuring the whole first team on vocals. Just make sure they use headphones.

PLAYER INDEX PREVIOUS PLAYER NEXT PLAYER

FACT FILE

Born: 18 November 1963 | Gladaxe | Denmark

Height: 6' 4" Weight: 15st 13lb

Signed for United: 6 August 1991

Transfer fee: £550,000

United League debut: 17 August 1991 | Notts County (h)

Previous club: Brondby IF

1995/96 record: 44 apps | 1 goal | 21 clean sheets

Manchester United record: 245 apps | 1 goal | 118 clean sheets

International record: 82 apps | 63 goals conceded

Team: Denmark

Debut: 20 May 1987 | Greece

BEST MOMENT OF 95/96
An outstanding display to deny Newcastle at St James' Park, 4 March 1996

Player profiles include fact files and pictures of the whole Man United squad.

despite any rumours you may have heard, football is definitely not the 'sport of kings'. Have you ever seen a member of the royal family diving for a header or tapping a ball around with the maid? Playing football is a job best left to the sort of person who enjoys running around a freezing cold field in nothing but a garishly-coloured polyester shirt, kicking wildly at an inflated pig's bladder. The filthy rich aristocracy are hardly likely to be associated with a game like that.

For some, however, the players of Manchester United hold a truly regal status thanks to their undeniable flair and brilliance. And they are, undeniably, filthy rich. And the information included in this CD-ROM will

no-doubt help raise the Man U players higher still in the opinion of their sheep-like supporters. Its player profiles alone surpass anything you could find on the Internet – they're large, detailed descriptions of all the players including photographs and biographies.

Also there are video clips highlighting crucial moments for the club during their previous season. These clips include Schmeichel's famous goal in the UEFA Cup and Eric Cantona's brilliant double-winning shot against Liverpool. The clips include their original commentary and indeed are identical to the originally broadcast television footage, replays and all.

If you wanted this information, though, wouldn't you be reading *Total Football*?

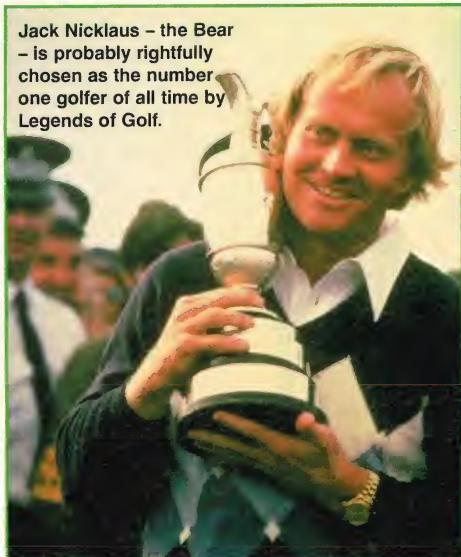
Never mind. If they do tire of endless Man U info, bored youngsters can quickly be calmed by sitting them in front of the 'MatchQuiz', a trivia game featuring all sorts of footy questions. Although it's quite difficult, this game is unlikely to keep many people amused for long, though, due to its repetitive nature and drab graphics.

Not content with supplying you with all of the Manchester United factoids you could ever wish for, VCI has thoughtfully included a profile of all 19 other Premier League teams that featured in the red tribe's double-winning performance in the '95-'96 season. These profiles include photos of star players, a team list and key club results.

All this begs the question, however, 'Why not produce a CD-ROM on the entire Premier League?' The odds are that it would sell better, even if the information was less detailed than it is here.

Though this piece of software is called *The Double Double*, it includes only Man U's double-winning '95-'96 season. Although they also won it in '93-'94, there's no mention of this season, or any other for that matter. Anyone expecting to find out about both Man United's Premier League doubles will find the package sadly incomplete.

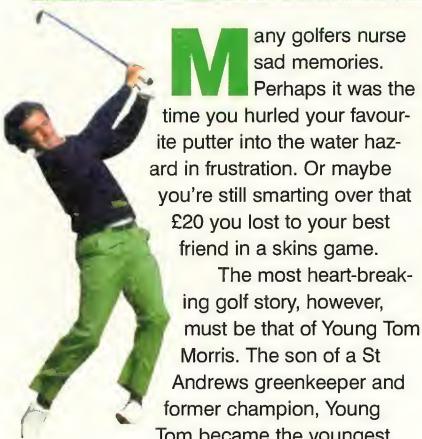
The Double Double's presentation is excellent. Menus are well laid out and easy to use with big, clear buttons. The information is also very complete and the photos are good, although the videos range in quality from good to grainy. It's just a pity that the disc covers only one season. (AC)



Jack Nicklaus – the Bear – is probably rightfully chosen as the number one golfer of all time by Legends of Golf.

LEGENDS OF GOLF

It plays with flair and style, but does this compendium of golfing facts have much of a long range aspect?



Many golfers nurse sad memories. Perhaps it was the time you hurled your favourite putter into the water hazard in frustration. Or maybe you're still smarting over that £20 you lost to your best friend in a skins game.

The most heart-breaking golf story, however, must be that of Young Tom Morris. The son of a St Andrews greenkeeper and former champion, Young Tom became the youngest

Open winner ever in 1868. The father and son dominated Scottish golf until 1875 when, during a match at North Berwick, Young Tom's wife fell ill during childbirth. The baby was stillborn, but the golfer was not told anything until he had finished his round, at which point he was whisked away to see his wife. Alas, she died. To compound the tragedy, Young Tom fell into depression, gave up golf and died of self-neglect that Christmas. He was 24.

Nevertheless, the *Legends of Golf* CD pays tribute to this early golfing genius by rating him the 21st best golfer of all time – quite an honour when you consider how much the game has changed since the 1870s. And though their tales aren't as tragic

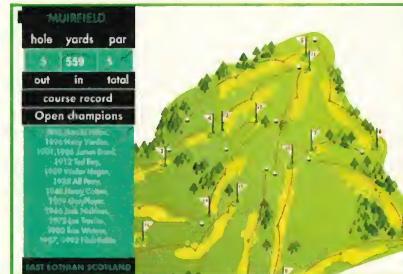


Click on one of these floating golf balls and you'll call up one of 50 player profiles.

Young Tom's, 44 other men and five top women golfers are profiled in this attractive and informative disc. Similarly, there's a fair amount of information on the top PGA and Open tournaments, as well as the major courses in the US, England and Scotland.

Although not as easy to browse as it could be, *Legends* otherwise smacks of quality. The photos included are excellent, and you can see the likes of Jack Nicklaus, Greg Norman and Nick Faldo in full-colour glory. There are various shots of them putting and driving, and even posing with their families and trophies.

Aside from the golfers' biographies, scanned newspaper clippings report on their greatest wins, capturing some of the dramas that have taken place on courses like Muirfield, Royal St George's and Augusta over the years. The *Daily Mail*, *Telegraph*,



Details on over a dozen top courses are available. Here's the deadly 15th at Muirfield.

Guardian and *Express* all contribute, as does the *New York Times*. To cap it off, there are recorded opinions on many of the golfers delivered by Peter Alliss, Mark McCormack and Gary Player (who, as the 4th greatest, gets to comment on himself!).

Ultimately, the true golf fan will want more detail from a CD-ROM like this – the medium could be used best for a comprehensive history of golf rather than a cursory glance over the legends. Nevertheless, the quality of the presentation here will certainly get this disc past the first cut. A slight lack of depth in its game, however, means that it will probably slip from the leaderboard before the tournament is out. (GW)



DEVELOPER
Philips/TWI
PUBLISHER
Philips Media
CONTACT
0171 911 3000
PRICE
£24.99
MINIMUM SYSTEM
486DX2, SVGA, double speed CD drive, Windows 95

PC REVIEW VERDICT
Superb pictures and some good golfing info, but not enough for long term appeal.



Each player is rated, but you can add your own ratings if you disagree. We think John 'Wild Thing' Daly deserves to be much higher than number 45.



From individual players' screens, like this one on Laura Davies, you can read player biogs, see their achievements and access photos or video clips.



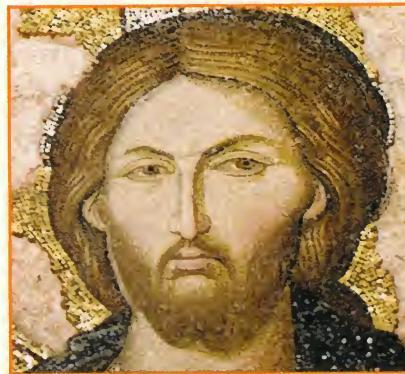
Tragic Young Tom Morris. Won his first Open at 17. Died at 24.

PILGRIMS

"The pilgrimage to Mecca is the culminating point of every pious Muslim's life. In the middle of the great mosque stands the shrine of the Kaaba, a cubic building in which the Black Stone is set. This is probably a fragment of a meteorite and dates back, according to the Koran, to the patriarch Abraham. The ceremonies commence with a night-time vigil on Mount Arafat, the Mount of Mercy, the place on the road to Mecca where the Prophet preached his last sermon. After purifying themselves the pilgrims... make seven circuits of the Kaaba, stopping each time to kiss the sacred stone." – from the disc.



The main screen of the program. The box in the bottom left corner enables swift access to the help facility, glossary, index and maps.



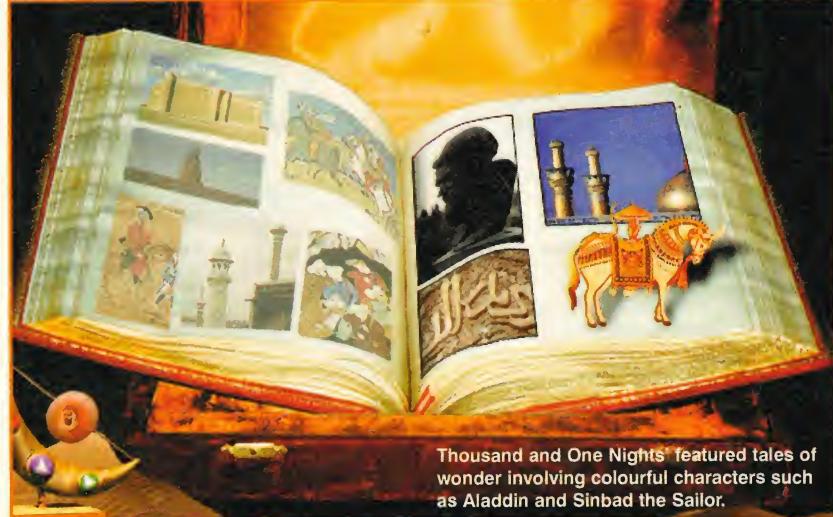
Mosaics, such as this one of Christ, are part of the artistic heritage of the area.



The once-great Ottoman Empire played a highly important role in the formation of the Orient as we know it today.



The Koran is the cornerstone of the Islamic faith, and a commentary is provided on the disc, accompanied by a photo montage.



Thousand and One Nights' featured tales of wonder involving colourful characters such as Aladdin and Sinbad the Sailor.

VOYAGE TO THE GATES OF THE ORIENT

Put on your pointy slippers, brush off your magic carpet and prepare to experience a little Eastern promise with this attractive guide to the mysteries of the Orient.

DEVELOPER
EMME Interactive
PUBLISHER
Koch Media
CONTACT
01420 541880
PRICE
£29.99
MINIMUM SYSTEM
486DX, 8Mb RAM,
32,000 colours SVGA,
double speed CD drive,
Windows 3.1 or 95

An attractive guide to the Islamic world, but the historical context is hard to grasp.

PC REVIEW VERDICT

5

Situated roughly between the Iberian peninsula and the steppes of Asia is the area traditionally known as the Orient. Since the fall of the Western Roman Empire in 476 AD this area has been a flashpoint for religious and territorial conflict as well as a source of great cultural growth and beauty. Indeed, many would say that cities like Constantinople in the Byzantine Era, filled with wonderful monasteries and basilicas, were as glorious as any cities ever built.

After 1500 hectic years that saw the rise and decline of great powers such as the Ottoman and Mogul Empires, the Orient is a fascinating example of how present societies can be affected by the events of the past. Rich in sumptuous photographic images and featuring music typical of the region, *Voyage to the Gates of the Orient* is an attempt to bring the area to your home and allow you to experience some of the wonders it has to offer. The question is, how does the disc convey information that many of us have

only skimmed over in Religious Education lessons or absorbed piecemeal from Hollywood epics?

The point of a multimedia reference disc is to make the learning process stimulating by providing attractive complementary visuals, decent quality audio, simple and yet exhaustive text or commentary, a powerful search engine and an intuitive control method. *Voyage to the Gates of the Orient* has a number of very good quality photographs and film clips including an excellent 'fly through' view of a caravanserai (a fortified building of the type found at regular intervals along the Silk Road that stretched from Istanbul to China) and the music that accompanies the commentary is atmospheric. But some of the discussion on subjects such as the Ottoman Empire requires background knowledge in order to put it all into context. For a user unfamiliar with the history of the region things are a little hard going at first as phrases and names are thrown at you that

have you reaching for the program's glossary. The disc also has an index, but there is not enough written material there to form any overall conclusions about the information the makers are trying to put across.

With a more logical arrangement, this disc would constitute a useful introduction to the history of the Orient. As it is, the quality photographs and audio seem to serve as merely an attractive slide show and commentary when really they should prompt further avenues of research. (JT)



The life of the prophet Mohammed is celebrated in colourful historical artefacts.

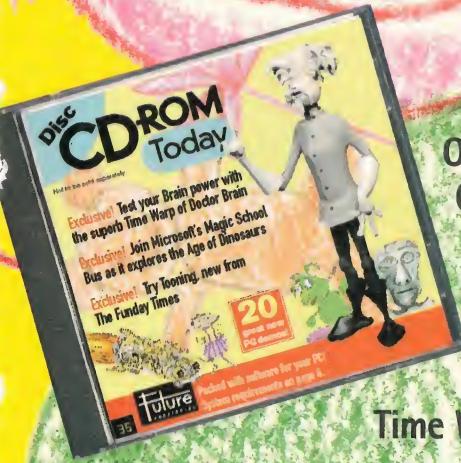
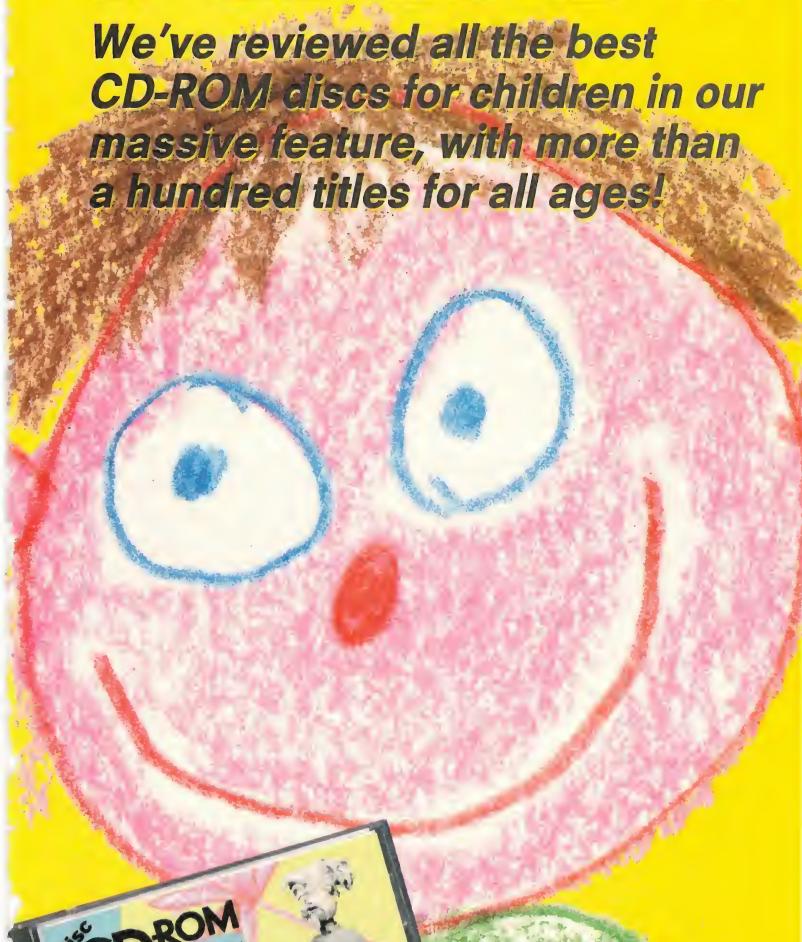
A fascinating example of how present societies can be affected by the events of the past

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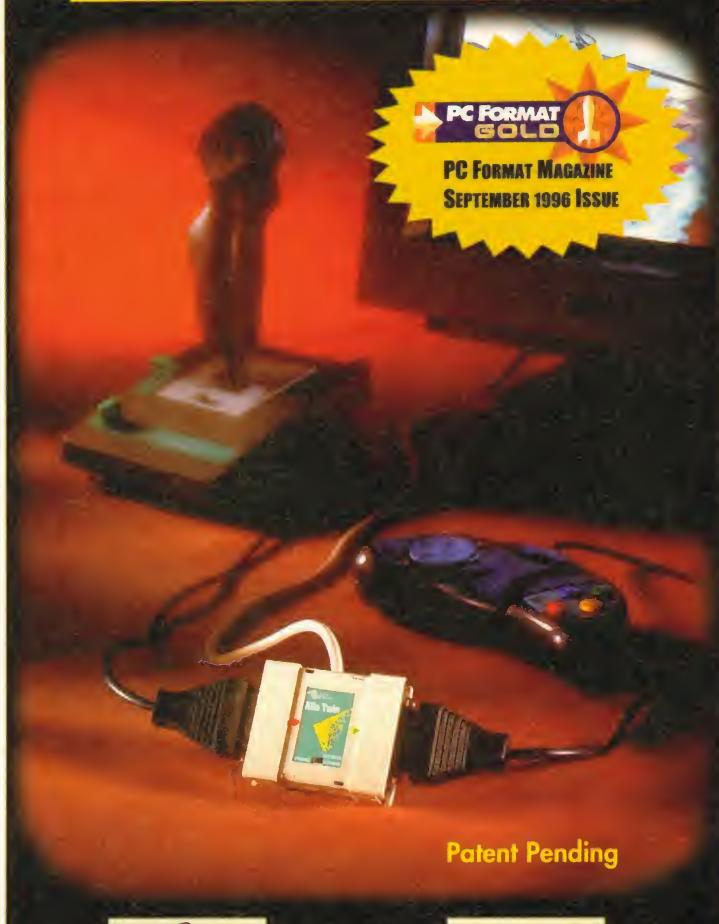
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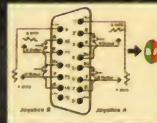
February issue on sale now

AlfaTwin

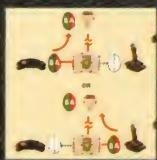
The ONLY automatic joystick selector you'll ever need



Patent Pending



Although most PCs have only one game port the design actually supports two joysticks (A & B). Advanced sticks that sport four buttons, throttle and rudder controls or coolie caps, make use of the second joystick (B) controls. When two sticks are connected only two fire buttons per stick are available.



Select single player mode and the AlfaTwin allows you to switch between two joysticks. In this mode, all the functions of the stick are supported. To select your stick, simply press the fire button of the controller you wish to use.



Leading joystick manufacturer says:

"Just to let you know that the AlfaTwin Joystick-switch arrived intact. At this moment I have connected 7 (1) joysticks to the AlfaTwin :- and it works perfectly.

Computer -- AlfaTwin

Gravis GrIP

Gravis GamePads

"This all works without having to pull out all the cables, einfach wunderbar! I cannot say anything else except congratulations with a very nice product."

Edu Oskam, Technical Support Specialist (Gravis Europe/Holland)



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THE WORKS



I've got a massive Works section for you this month. It kicks off here with our guide to Music for Idiots. We also bring you the latest home DTP software, budget word processors and graphics plug-ins. With money in short supply after Christmas we could all use use financial advice, so we pit the two biggest home finance applications against each other. Turn to page 90 to see whether you should be counting your cash with Microsoft's Money 97 or Intuit's Quicken 5. On the hardware side we review two of the latest chip upgrades, the best options for upgrading your sound card and a selection of scanners. Enjoy The Works.

Mat Broomfield
pcreview@futurenet.co.uk

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MUSIC MAKERS

At long last, software has arrived that enables you to make high-quality sample-based music without Grade 8 on the piano and a degree in computer programming...

Hands up if you've heard this one before: "Anyone can make music with their PC! All you need is a little time, a little imagination and *MusicDemon*, the incredible new software package from HalibutSoft!" Let's face it, though – none of the software that's been available up until now has really enabled you to be creative, dynamic, expressive and, dare we say it, original to any great extent.

It's a multi-faceted problem. Object-oriented sequencers, such as the inexpensive but still comprehensive and relatively high-brow *Emagic MicroLogic*, use icons to represent instruments but still require you to enter notes, and then to be able to fit those notes with other notes. Scary stuff.

Even the excellent *Jammer Hit Session*, given away in *PCR* 61, requires a smidgeon of musical know-how in order to achieve something tuneful, rewarding and vaguely

non-dull. Blandness is the second bugbear. Much of the software tries to write tunes with traditional instruments: electric guitars, woodwind, violins and so on. None of the PC soundcards currently available, even the ROM-stuffed el expensivo ones, can really pull off a convincing oboe or viola.

What's the answer?

Why not remove the need for the traditional sound palette in the first place? Base the music that you want to make around electronic sounds. Where there are electronic sounds, there is electronic music – dance music, pop music, techno music – the sort of styles you should be wanting to produce as a forward-thinking, techno-lover of the 21st Century.

Of course, if you can't rely on a soundcard, you can always turn to samples – but this, in the past, has always led to problem

number three – processing power. With the dawn of the Pentium chip, though, this is no longer a factor.

So, what we need is software that doesn't require us to know a sausage about Em7 chords and suspended fourths. Software that favours current musical trends. And software lets you create something of reasonable quality with the minimum of fuss.

This software has arrived! Developers have got the point at last, and they all seem to have got it at once. *Mixman Spin Control*, *Techno Maker*, and *Magix Music Maker* are centred around dance samples with balls and let you create credible club tracks with only a little brainwork. *SMS MusicMaker*, although more of a learning package, still includes chart and pop material. Turn the page to find out how you can make music without tears and no real experience, even if you think hip hop is for frogs. (DR)



WHERE DO YOU GO FROM HERE? If you grow out of the software shown here, then what's the next stage? A simple sequencer - yep, something that deals with notes and all that tricky music stuff - with WAV file support is probably a good idea. Check out Emagic's microLogic (£99, Sound Technology 01462 480000) or Cubasis for Windows (£149, Harman 0181 207 5050).

Mixman Spin Control



The intro is an adrenalin rush of blipvert techno images, concluding in the audio CD's title, before dissolving into the main image...



The turntables are just for cosmetic effect: you actually select or mute tracks using the keyboard and the mouse. Looks cool though.

Mixman is simple in design and mindlessly facile to use, yet the results are potentially the slickest obtainable from any of the packages reviewed here. The software is bundled on a mixed mode CD called *Spin Control* which features fair-to-middling techno and tripno by a San Franciscan dance collective.

Each band has supplied a complete track, which you can play in its own right from the Song Selection Screen, plus a comprehensive breakdown of each track's elements. Drums, percussion, leads, vocals, effects and

basslines have all been syphoned off into 16 tracks. On the Mix Screen, you can drop these elements in and out of the mix, add a gritty, 'instant lo-fi' effect (very cool), and save your mix for playback later.

Mix data is saved as a MID file, so you can use that mix template on another *Spin Control* track for further dabbling. The quality of the samples is superlative, and on a P133, you can have all available tracks playing without any loss of audio. *Mixman* is ultimately rather limited but still great fun.



The eight album tracks are displayed like 12-inch singles on the Song Selection Screen.



The housekeeping screen, where you load mixes, save mixes and change global settings.

DEVELOPER Mixman Spin PUBLISHER V2 Records CONTACT 0181 964 5445 PRICE £20

MINIMUM SYSTEM 486 66MHz, 8Mb RAM, Windows 3.1 or 95

Remix someone else's tracks exactly as you wish. At last you have the chance to show the DJs how it's done.



TechnoMaker

Databasecker's *TechnoMaker* offers you the next stage up from *Mixman*. Now you have over 140 samples to choose from, and they're all designed to fit together, so musically you can't go far wrong. The display is simplistic: a grid at the top showing the layout of your eight-track song; mixer controls bottom left; various global functions bottom right - plus the forward/reverse/stop tape-style controls.

Creating music is straightforward: pick a sample from one of the seven menus, place it on an empty track, copy and paste it a few times, then repeat and arrange until you have a complete track. You can rehearse a mix by just playing it back while tweaking the sliders on the mixer. Alternatively, hit Record and your mix will be recorded for recall. Playback preview is in miserly old 8-bit. You can only

hear the full glorious 16-bit sound when you perform a High Quality Save, then play your masterpiece back from *Media Player*. You can also load in your own 44.1kHz samples.

TechnoMaker is limited: you can't cut samples down to size, you're limited to eight

tracks, you can't preview them before you place them on the grid, and even then the 8-bit playback is rough and ready. Still, it's fun and at the very least it gives you a rapid insight into arranging musical components for the most 'dancefloor-friendly' outcome.



Add a bell to punctuate the end of the phrase and begin the percussion build up with a snare.

DEVELOPER Databasecker PUBLISHER Databasecker CONTACT 01420 22707

PRICE £29.66 MINIMUM SYSTEM 486/60MHz, 8Mb RAM, SVGA, Windows 3.1 or 95

There are dance samples galore, and decent results are obtainable fairly quickly. But the program is quirky to use and distinctly limited.



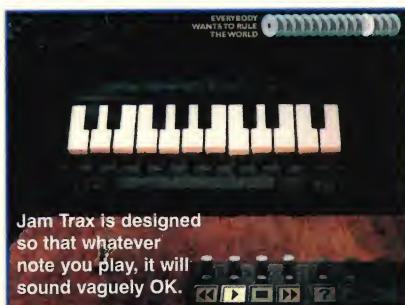
CD REVIEW

Exclusive version of *Mixman Spin Control*. Rave on.

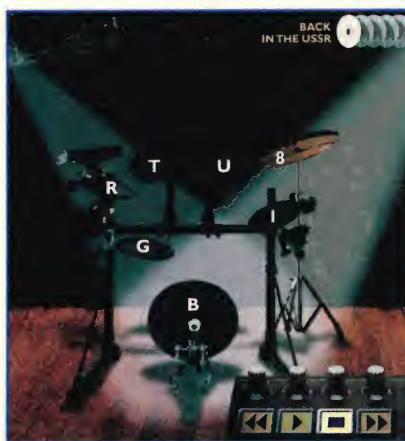


Eight clean tracks to start with, so call up a String line in the sample menu and copy and paste it a couple of times to your track.

SMS MusicMaker



Jam Trax is designed so that whatever note you play, it will sound vaguely OK.



Drum Along: hit the right key to trigger the appropriate drum sound as the song plays. (There's a choice of four drum kits.)

Right, less of the entertainment, and on with the education. SMS MusicMaker brings you a different approach to instant musical results: play simple tunes and – gulp – learn while you do it. Yep, these guys are serious: there's even a music quiz and a one-and-a-half-octave keyboard in the package, even if it is only made from lightweight plastic.

The *MusicMaker* software comprises a handful of play-along options based around stadium event graphics and 15 popular songs. Some of these are more welcome

than others: it's good to see *Mama* by Genesis and *Killer* by Adamski, but can you say the same for *Georgia On My Mind* and *La Bamba*? You progress through simply tapping the space bar along to a rhythm – no musical skill required – to jamming along with a preset blues scale. This is where the plastic keyboard comes into the frame: lay it on the QWERTY keyboard and jam away.

The most advanced section is Melody Play. Here, the screen displays the melody, both with a picture of the ivories and music

notation, and you play along. With any luck, you'll absorb simple music-reading skills along with a familiarity with the black-and-whites. It's a far more sober approach to creating music than the other packages here. *MusicMaker* is more about long-term musical gains than a quick fix of techno-styling. It won't turn you into an Ashkenazy, but for the minimum of expense it'll set you on your way.



The ultimate challenge, Melody Play. Music and diagrams help you find the correct note. The backing arrangements are slick.

DEVELOPER
Steinberg
Music Sales

PUBLISHER
Music Sales
Ltd

CONTACT
01284 702600

PRICE
£19.95

MINIMUM SYSTEM
486/DX33, 8Mb RAM, SVGA,
Windows 3.1 or 95

A simplistic and formal learning program, but still a classy way to develop basic rhythm and melody skills and music notation recognition.

8

Music Maker

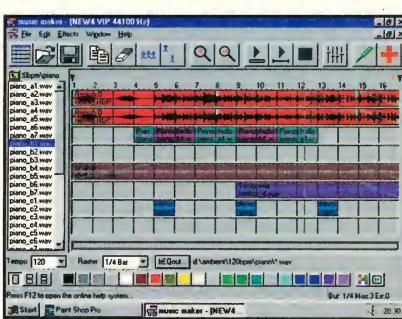
Another *Music Maker*, but a completely different outlook to that from Steinberg Music Sales. Magix's software is like *Techno Maker* with knobs on. In fact, the samples do have knobs on (or grab buttons more accurately) with which you can lengthen, shorten, increase the volume of, fade up or fade down each high quality WAV file once it's been placed on the arrangement grid.

There are an almost limitless number of tracks to play with, as once you've filled the nominal four or eight, you can bounce the samples down to two stereo tracks and then continue to add more. Each part can be processed with a variety of effects, including echo and reverb (average) and distortion (better) and filter (excellent). And samples are

auditioned as you pick them – they aren't in *Techno Maker*.

Music Maker is expandable and will accommodate any genre: Magix already has a fistful of sample CD-ROMs (£19.95 each) with seductive titles such as *Ambient/Chill*, *House/Techno* and *HipHop/P-funk/Rap*. A special Media Link feature means *Music Maker* can be hooked up to MIDI sequences and AVI clips; there's even a little chaos-meets-relief with *frEQout*.

You do need to watch the labelling of the samples: *bass_b1* will be in tune with *pad_b1*, but not with *pad_b2*, and so on. Ultimately, though, this gives you more musical flexibility. And sometimes the grab buttons can be a mite fidgily to get hold of. Overall, though, it's a great package, guaranteed to get you frenzied about music, sound editing and integrated multimedia.



You can mixdown the track to just two tracks, change the sample status to mono, and keep adding samples and effects till your poor little computer explodes...

DEVELOPER
Magix

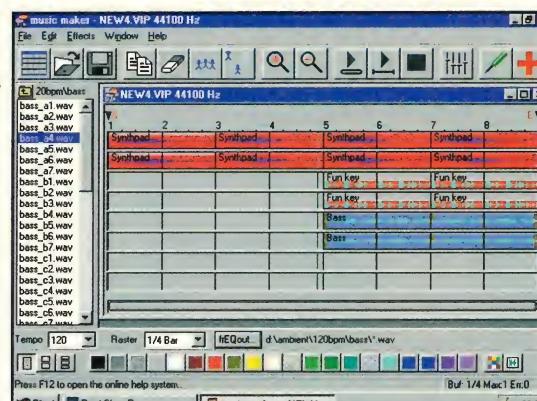
PUBLISHER
Telstar Leisure

CONTACT
0181 805 8005

PRICE
£29.90

MINIMUM SYSTEM
486/DX33, 8Mb RAM,
Windows 3.1 or 95

Plenty of scope for sample mangling and multimedia exploration. Expandability means you won't get bored too quickly.



Pull a few samples across from the menu on the left, then copy and paste them on to the grid. You can keep auditioning and adding elements while the track plays.



Build up the arrangement – zoom in and out as necessary, then add effects to parts to make them even more interesting. Filtering drums is very vogue...



Next month

We hope to bring you a working demo of *Music Maker*.

9

WHERE DO YOU GO FROM HERE? (PART 2)

And if you upgrade to better software, you're going to need better hardware too. Try a Yamaha SW60XG soundcard, or at the very least a DB50XG daughterboard. You'll need a MIDI keyboard too: Roland, Yamaha, MIDIMAN and Evolution can all supply these for between £100 and £200.

SOUND UPGRADE

Turn to page 94 to read our soundcard round-up which should help you choose your next audio upgrade.

DTP IS EASY!

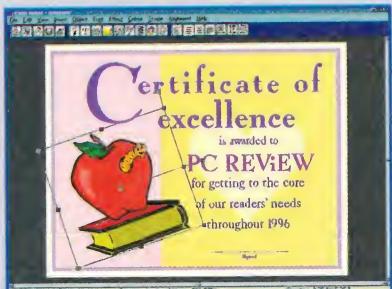
PRINT ARTIST 4

DEVELOPER
Sierra On-line
PUBLISHER
Sierra On-line
CONTACT
01189 209111
PRICE
£27.99
MINIMUM SYSTEM
486SX/33, 8Mb RAM,
Windows, CD drive

Quick and easy
design tools for
both home and
business use.
Slick, friendly
and very good.

PC REVIEW VERDICT

8



Print Artist 4 comes choc-a-block with pre-built designs, but it's perfectly simple to customise them to suit your own needs.



One of PA4's major features is the vast range of options available for editing text styles; each effect can itself be edited.

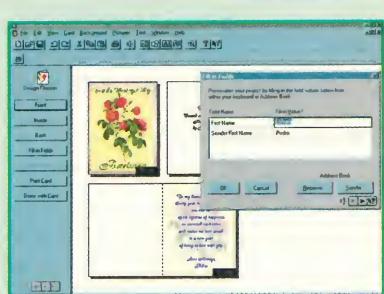
PRINT-MASTER SUITE

DEVELOPER
Mandscape
PUBLISHER
Mandscape
CONTACT
01444 246333
PRICE
£29.99
MINIMUM SYSTEM
386SX/33, 4Mb RAM,
Windows, CD drive

As proficient as
Print Artist 4,
but with one or
two minor
annoyances.

PC REVIEW VERDICT

7



Personalising a template couldn't be easier in PrintMaster. Just type in the relevant name and the changes are made throughout the card – on the front and inside. You can click on any text to edit it.



User-friendliness is one of PrintMaster's strengths. Here the Project album leads us to a selection of 'romantic' greetings cards.

Tired of forking out quids for greetings cards and the like? Then how about cranking out your own designs?

Desktop publishing is one of the last frontiers in home computing. Maybe it's because people never realise just how useful DTP software is until they've actually installed and used it. Or perhaps they think that 'productivity software' smacks of work rather than pleasure.

Whatever the reasons, people usually discover that once DTP software is installed it's easy to find scores of ways of using it. It can even leave you wondering how you ever managed without it.

The fall in prices of good quality colour printers also opens up new avenues for home and office users, who can now create personalised stationery or advertising literature at a fraction of the cost a traditional print shop might charge.

As with most serious/leisure applications there is a distinct boundary which separates the expensive professional packages – like QuarkXPress, for example – from those cheap 'n' cheerful programs aimed at people like you and me.

And while the top-end applications concentrate on power features, the more modest software gets better and better at providing quick, easy and enjoyable ways of getting the job done.

The latest versions of home and office print design packages are super-friendly. They take most of the stress out of creating professional-looking output. Fonts, images, illustrations and pre-defined designs are supplied, and all you have to do is edit the text, change a drawing or font maybe, then press Print to create a fine-looking document.

Print Artist 4 and the PrintMaster Suite are two design packages aimed at the budget end of the market. Print Artist from Sierra is a versatile package which although crammed with templates and pre-built designs is totally flexible. For a quick and simple start, just pick a style and spend a few minutes customising it. As you become more adventurous you can include your own images, and tweak the look of your document to an amazing degree.

The same is true of PrintMaster from Mandscape. The templates are presented as album pages, and once you turn off the

annoying American commentary, it becomes fun to experiment.

Print Artist offers a wide variety of styles for labels, signs, stationery, cards, calendars, certificates, banners and crafts; PrintMaster offers a similar line-up of designs, including news sheets, faxes and labels.

Within Print Artist, aimed as it is at home and office, you can find templates for cut-out toytown houses rubbing shoulders with headed notepaper and business cards.

But this isn't a frivolous program – it is friendly, efficient and thoroughly professional. While extremely simple to use (straight out of the CD case, in fact) it makes no sacrifices in terms of quality and range.

But then neither does PrintMaster. There are over 1,000 designs, 200 or so fonts and around 5,000 graphics. There is one minor niggle despite this bonanza – you have to register the software before it will give you access to some 36 additional fonts and 63 colour illustrations.

Meanwhile Print Artist boasts 300 fonts, more than 1,000 clipart images and a similar number of Jpeg pictures, some 1,400 layouts, quotes galore for including in greetings cards and self-calculating yearly or monthly calendars up to 2099. It does lack the address book feature of its rival, though, which is a pity because this is handy for quickly personalising your designs.

The Print Artist 4 interface is a big improvement on PA3, although using an HP Laserjet we did find the output had to be tweaked considerably to get acceptable results. PrintMaster had problems, too, throwing up fatal errors in Windows 95 using the Videologic Graphicstar 600 drivers on our test machine.

These programs could be twins, separated at birth – not identical, but both robust and fine introductions to the world of DTP. Both offer a vast range of fonts and imagery, and at this price you could choose either and be printing exactly what you want in no time. They don't compete with the Pagemakers or Quarks of this world, but they each do a fine job. And although not essential, a colour printer is really needed to take full advantage of all the goodies on offer. (PL)

They take most of the stress out of creating professional-looking output.



P200 CHIPS

Get out the go-faster stripes, get ready to turbocharge your PC and join us on the grid with two 200MHz processors.

Unless you've been walking round with your eyes shut over the past 12 months, it can't have escaped your attention that 3D is very much in vogue at the moment. Big name games like *Tomb Raider*, *Quake* and *Descent 2* all use impressive 3D engines to bring previously unheard of levels of detail to your computer. The ability to render polygons quickly is all-important in the quest for realism. But it's not all about games; stunning productivity packages such as *3D Studio Max*, *World Construction Set* and *Lightwave* have also pushed back the boundaries of what is possible.

All of these applications are very demanding upon your processor, as evidenced by the fact that many of them won't even load on non-Pentium systems. Dozens of 3D cards have appeared to help enhance performance, but if you want an upgrade that will improve everything you do, a new

processor might be a better bet. We've rustled up a couple of P200 chips to see how much difference they make.

The first of our contenders comes from Gainberry in America. Last year, we looked at that company's 486 Maximizer, and although it was the fastest 486 upgrade in town, it was not without its problems, not least of which was the extreme difficulty in getting it to work in many motherboards. Whether it's by luck or design, Gainberry's Pentium 200 is an altogether easier affair. In fact, it's not really a pure P200 like Intel's offering, the P200 Overdrive. That means that it works with the same motherboard settings as a P100, 133 or 166. Not that you'd know it to read the installation guide supplied with the chip. It's an A5 leaflet, and as with the 486 Maximizer, in lieu of detailed motherboard setup information, it simply prompts you to 'set switch

es or change jumpers'. There's no mention of which switches and jumpers, or what they should be set to. This lack of detail is all the more puzzling because the Maximizer is clearly a consumer product rather than one aimed at system integrators. It comes with a built-in fan, and draws its power directly from the processor slot, rather than an additional power lead.

Once you know that what settings Maximizer runs on, it really is a plug-in-and-go operation, taking no more than a few minutes of your time. To see how it performs, we tested it using two benchmarks; *Norton Utilities 8 Sysinfo* CPU test, which gives a figure that is a pure indicator of processing power, and

Norton Utilities 95 System benchmark, which looks at the performance of the CPU in the overall context of the system it's in. Our Intel P166 test machine generated a CPU rating of

526.6 and a system score of 20.1. The Maximizer scored a CPU rating of 632, which is almost exactly 20% faster. However, the big shock was that its system rating was actually lower at only 19.6. Many people assert that any motherboard sporting an Intel chip set is specifically attuned to run raw Intel processors, and this shock result would seem to lend weight to that theory.

Our second processor is a genuine Intel P200. Intel would rather not sell this chip to you directly because the company believes it generates too many support calls from ignorant users who try to install them without knowing what they're doing. This is a valid point and, obviously, the company would prefer you to look at its other easy-to-fit Overdrive processors. Unfortunately, no P200 Overdrive yet exists, so you either have to go for the

raw P200 or something from one of Intel's rivals. In fact, provided you have your motherboard manual to hand, installation is easy enough. Simply configure the motherboard to run at a 66MHz clock speed, with a 3x multiplier.

In terms of performance, the Intel P200 gives an identical CPU rating to the Gainberry Maximizer, but a far better System score of 21.1. It's also cheaper. (MB)

It really is a plug-in-and-go operation, taking no more than a few minutes of your time.

INTEL P200



DEVELOPER
Intel
SUPPLIER
Dabs Direct
CONTACT
01483 797474
PRICE
£430.05
MINIMUM SYSTEM
Pentium motherboard with a P5 socket able to run at 66MHz x3

For users who know what they're doing, Intel's P200 is the chip of choice.

PC REVIEW VERDICT

8

MAXIMIZER BOOSTER 200/180A



DEVELOPER
Gainberry
SUPPLIER
Sunbelt Ltd
CONTACT
0181 715 9913
PRICE
£888.30
MINIMUM SYSTEM
Pentium motherboard with P5 socket

Even awful instructions don't stop this from being a plug-in and go processor.

PC REVIEW VERDICT

5

CPU or 3D card?

You might be asking yourself whether it's better to buy a new processor or a dedicated 3D card. 3D cards come with many benefits, not least of which are their dedicated rendering engines which are suited to the specific type of lighting and texturing demands of realistic 3D. However, a 3D card won't make your art program run faster, or enable your 2D games to run more smoothly. A new processor, on the other hand, may not accelerate your 3D graphics to the same degree as a dedicated card, but it will provide performance gains in just about everything that do. *Doom* will run more smoothly, rendering programs won't take so long to draw and even your spreadsheets will be nippier. Furthermore, if you already have a 3D card, a new processor will speed things up further.

It may be easy to fit, but it's impossible to justify the breath-taking price of the Maximizer Booster.

PROFESSIONAL TOOLS

Professional word processors cost a whole lot more than the programs reviewed here, so what do they offer that makes them worth the money? Microsoft Word, for example, uses 'Intellisense' to correct your spelling as you type and even automatically format your documents. Word also (in common with WordPerfect, Lotus Word Pro and other high-end word processing applications) offers 'outlining', where you can organise your text in a skeleton form, arranging its overall structure even while you're working on the details. With more expensive programs you can also create multiple columns, boxouts and other magazine-style effects to produce quite professional-looking layouts.

WORD UP!

A quick thank-you letter to Grandma doesn't have to cost hundreds of pounds. Here are two cheaper alternatives.

In this "bigger means better" age, there's no such thing as a simple word processor (WP) any more. The main packages are all monstrously bloated, and whilst they're a dream for professional users, they're a bit much for home users to afford without wincing. Of course, you could always stick with Windows 95 WordPad, or Write under Windows 3.1, and for the very most basic requirements, they may just about suffice. Now, there are two new programs that provide a half-way house between the sophistication of the big hitters, and the accessibility of the freebies.

To ex-Amiga users, *Final Writer* comes as a blast from the past, for it was the best-selling WP on that platform. Having said that, the Amiga was starved of decent packages so you can't read too much into the program's former eminence. Phrases about big fish and little ponds spring to mind...

Anyway, *Final Writer* is a very simplistic word processor, although that's certainly no bad thing. It's aimed more towards people writing reports, books and essays, rather than those who use their WP for desktop publishing. It enables you to build up your documents in sections: Index, Contents

Page, Body Copy, Bibliography and so on. Each section has a one-click tab so you can swiftly move between them. The program also has the basics such as a spell checker and thesaurus.

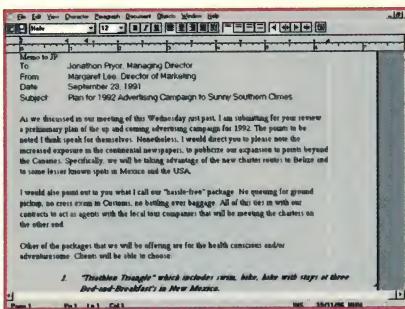
Mini Office Works is actually a suite of programs, of which the word processor is just one element. At first glance, it seems to offer far more than *Final Writer*, but you'll soon realise that it only seems more complicated because its options are more visible, whereas *Final Writer* tucks a lot of features away inside sub-menus. *Mini Office* doesn't offer the section controls provided by *Final Writer*, although it

does at least let you add end notes and contents tables. It has a rather ugly spell checker, but it doesn't have a thesaurus. However, it does come with support for tables and data fields, neither of which are catered for in *Final Writer*. The latter feature is useful for mail merging, which is an automatic way of addressing and personalising documents to lots of different people in a single operation.

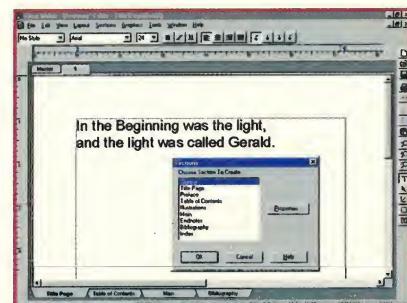
Final Writer provides far more comprehensive support for graphics importing, although both packages provide drawing tools. You're not going to be creating a

Picasso with either program, but of the two, *Final Writer* has the fewer tools. Having said that, you're only likely to be creating simple shapes anyway – you'll import anything more complicated as a bitmap or vector graphic created in another program. Despite its simpler set of drawing tools, *Final Writer* fully supports OLE 2, letting it integrate well with any other OLE applications you have. *Mini Office* doesn't support OLE at all.

Whilst their interfaces are clean and uncluttered, neither program is particularly attractive, and *Mini Office* is little short of oppressive. Be that as it may, they both have something to offer. *Mini Office* scores particularly highly thanks to its low price and the other programs in the suite which really add value. *Final Writer* is certainly clean and simple to use, but at its full retail price it's just too close to the serious packages to be a winning proposition. (MB)

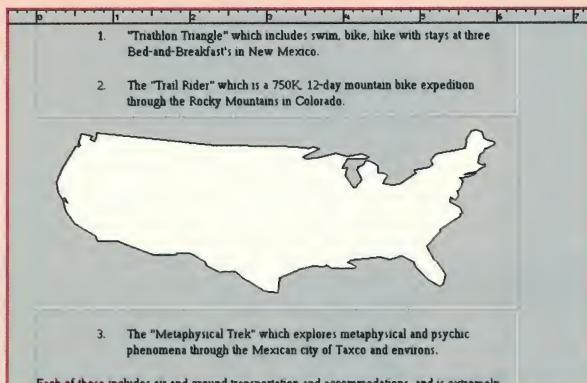


It might be a bargain, but *Mini Office* is never going to win any prizes for its looks!



Final Writer's section tools make it very easy to create complicated multi-part documents.

MINI OFFICE WORKS



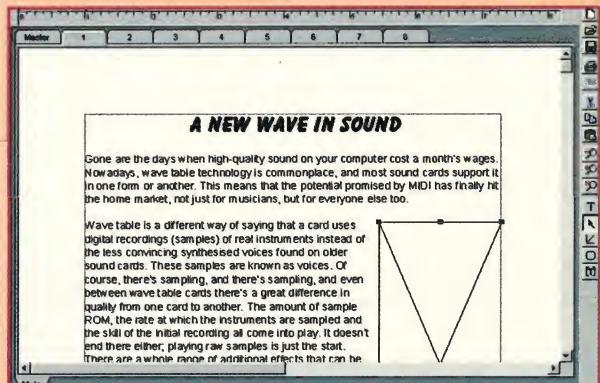
Although *Mini Office* doesn't support OLE linking and embedding, its handling of pictures is much better than *Final Writer's*.

DEVELOPER: Europress | SUPPLIER: Europress | CONTACT: 01625 859333 | PRICE: £29.99

Mini Office Works gives you a selection of entry-level office programs at a good price. Worthwhile.

8

FINAL WRITER



Final Writer is clean and easy to use and perfect if you'd rather not pay for bucket-loads of features you'll never need.

DEVELOPER: Softwood | SUPPLIER: Softwood Products | CONTACT: 01926 612554 | PRICE: £47

Final Writer is elegant and easy to get to grips with, but a little too expensive to compete well with *Mini Office*.

6

A PLUG-IN COLLECTION

One of the great things about modern photo editing programs like *Photoshop*, *Paintshop Pro*, *Photo Paint*, *XRes* and numerous others, is their extendibility. Thanks to their support of plug-ins, you can add third-party special effects which can be applied to your images as if they were part of the original program.

If you have the know-how, you can even create your own filters and effects.

Until now, professional plug-in packs have been expensive, but Almathera has made its product cheap enough for anyone to afford.

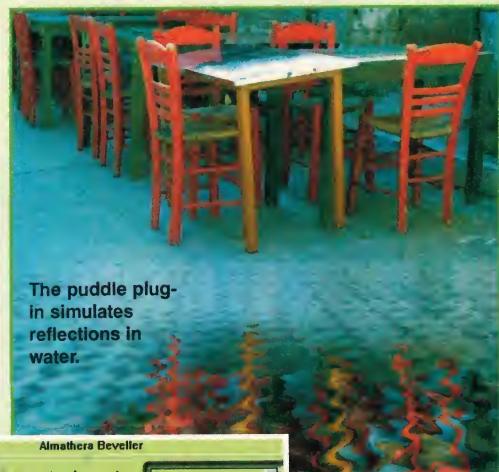
Despite a title that screams apathy, *A Plug-In Collection* actually contains eight highly useable plug-ins, four of which you'll have seen before in other packages, and four of which are original.

The familiar ones are: Drop Shadow, Bevel, Halo and Warper. The first three are all variations on a theme, for they modify the selection's border area to produce various lighting effects. The Drop Shadow is very nice, although even on a very fast Pentium

the preview mode and final render is extremely slow. Warper simply performs spiral deformations as if you'd pinched the centre of the image and twisted it.

Moving on to the less common filters, Lightning creates forks of lightning across your selection. You can adjust the colour, direction, number of forks, their straightness and the general spread. This is very useful for special effects, although there doesn't seem to be any consistency in the number of forks added by the forkiness slider: a value of 38 produces very few forks, whilst 39 threatens to incinerate you with the things. Puddle projects your image onto a water surface so it appears reflected, and A Grey Area is an accurate RGB-to-greyscale converter.

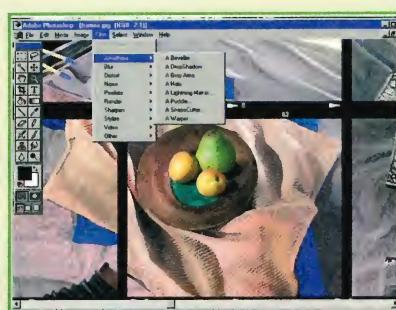
For expert users, the Shape Cutter tool is potentially the most useful in the set because it enables you to create geometric designs based on cogs, petals and stars. You can adjust the number of points, their length and so on. Once these shapes have been created, they're perfect for creating irregular image selections. (MB)



The puddle plug-in simulates reflections in water.



The preview mode slows to a virtual standstill when using some of these plug-ins.



Almathera's new plug-ins include some old favourites and a few well-executed new filters.

CD REVIEW

Exclusive demo is on our CD-ROM.

DEVELOPER
Almathera
SUPPLIER
Almathera
CONTACT
0181 687 0040
PRICE
£58.69
MINIMUM SYSTEM
386, 4Mb RAM, Win 95, Photoshop plug-in compatible program.

The new Almathera plug-ins are effective, but a little quirky and slow to use.

PC REVIEW VERDICT



BATCH MASTER

Many image-processing effects simply involve performing a series of time consuming and repetitive tasks. Even if the effect you're after can be achieved by a single filter or plug-in, if you're working on 5000 frames of hi-res animation, it's easy to waste hours or even days doing

work that the most mindless drone could have done. That's where Batch Master steps in. Batch processing operations can either involve performing a long sequence of commands upon a single image, or one or more commands upon multiple images. The program is blissfully easy to use, and at its core

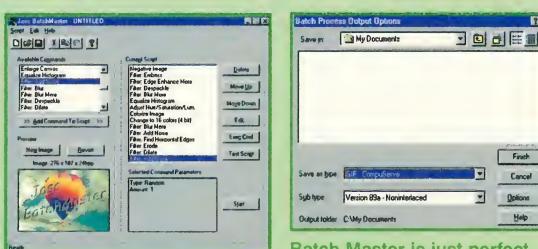
are the *Paintshop Pro* filters and image processing tools, which are listed at the left of the program window. Double-click on any title, and that filter or option is added to the script list at the right of the window. Some of the filters may be customised, in which case, an additional option requester will appear.

Before committing yourself to either a single effect or a script, you can preview the result. You can also save favourite scripts to reuse later. When you're happy with a script, select Start and a file requester will appear, enabling you to select one or more images for processing.

Unfortunately you can't select images from multiple directories, but at least all the main image formats (including WMFs) are supported. Note too that the program doesn't warn you before over-writing other files of the same name. (MB)



Batch Master is easy to learn, but you'll be discovering its subtleties for years to come.



You can string of commands together into complicated image processing scripts.

Batch Master is just perfect for converting pictures into GIF or JPEG format for use on the Internet.

DEVELOPER
JASC
SUPPLIER
Digital Workshop
CONTACT
01295 273476
PRICE
£29.95
MINIMUM SYSTEM
8Mb, 386, Windows 95, 4Mb hard disk

Batch Master is a cheap, easy and highly efficient way to automate repetitive image processing tasks.

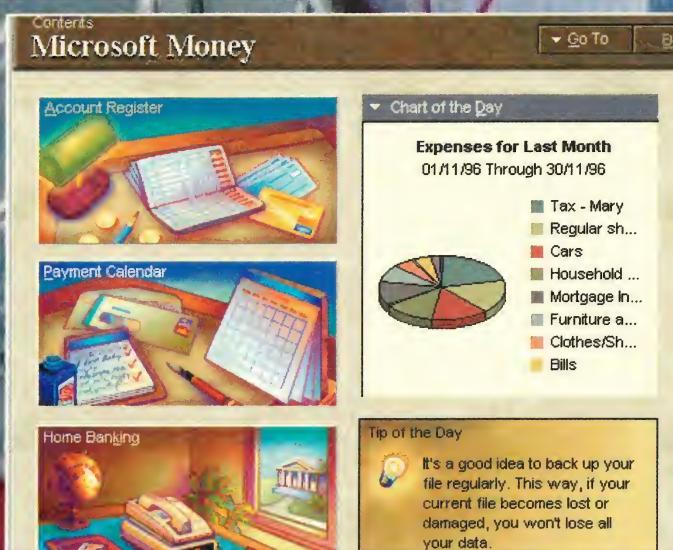
PC REVIEW VERDICT



MONEY 97 VS QUICKEN 5.0

Name	Latest Price	Quantity	Value
John's Portfolio			
Electricity Utility Plc	3.560	200.000	£712.00
Gas Utility Plc	4.890	400.000	£1,956.00
Total Account Value			£2,668.00
John - private pensions			
Mercury fund	9.651	3,112.000	£30,035.17
John - pension (Contributions)			£450.00
Total Account Value			£30,485.17
Mary's Portfolio			
Electricity Utility Plc	3.560	500.000	£1,780.00
Telephone Utility Plc	4.560	600.000	£2,736.00
Total Account Value			£4,516.00
Mary - retirement			
fund number 3	2.550	15,442.000	£39,377.10
Mary-retirement (Contributions)			£50.00

Money 97 can track your investments can be tracked, allowing you to make those major finance decisions.

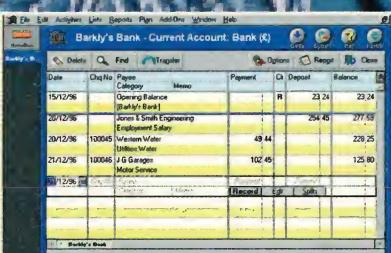
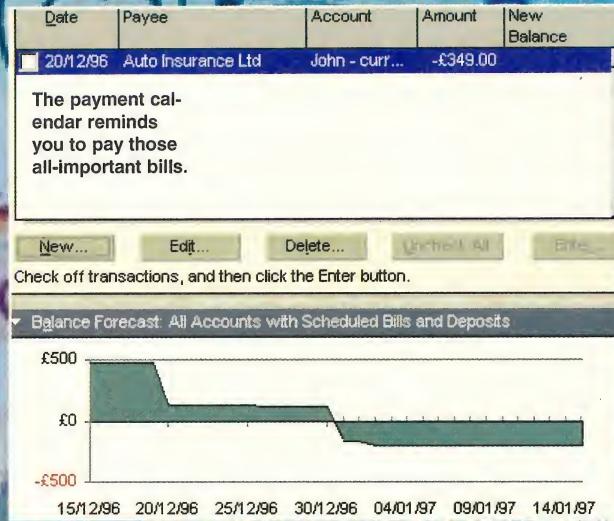


Money's welcome screen is a quick and friendly jumping off point to the program's various features. The Tip of the Day can give you new ideas about handling your finances.

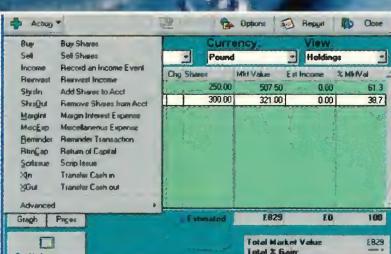
READY MONEY

Here are some top tips on keeping your finances in order.

- Set aside time for doing your finances on a regular basis – just after your bank statement arrives is the best time.
- Keep a record of transactions as they happen, and revise them to match your bank statement (not the other way round).
- Make sure you know what should be going through your bank account – keep cash machine receipts and cheque stubs.
- Direct debits allow the beneficiary to take a variable amount from your account – make sure you know what this is and when it will be taken.
- Make a savings plan and stick to it.
- If you have any spare cash, you may want to think about paying off storecards and credit cards – these often attract high rates of interest, and the savings you make may be greater than the amount you could earn in a savings account.
- If you see any unrecognised transactions on your bank statement, contact your bank immediately.
- Keep a record of bank statements in case of any queries.
- Keep copies of all pay slips, P45s, P60s, tax returns and tax correspondence.



Entering transactions is easy in Quicken.



The portfolio screen allows you to track investments for complex transactions.

MONEY 97

DEVELOPER
Microsoft
PUBLISHER
Microsoft
CONTACT
0345 002000
PRICE
£44.99
MINIMUM SYSTEM
386DX, 8Mb RAM,
11Mb hard disk space,
VGA, Windows 95

Not as easy or comprehensive as Quicken, but does offer on-line banking

PC REVIEW VERDICT



QUICKEN 5

DEVELOPER
Intuit
PUBLISHER
Intuit
CONTACT
01932 578500
PRICE
£59.00
MINIMUM SYSTEM
486, 8Mb RAM, double
speed CD drive, 18Mb
hard disk space, VGA

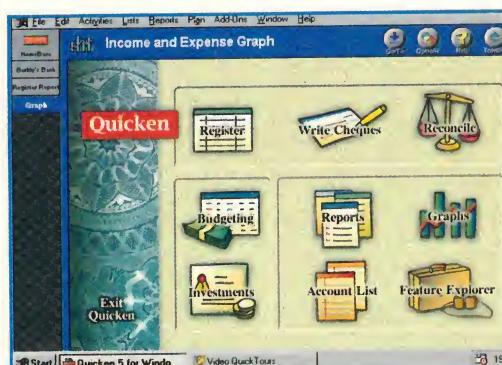
Excellent presentation, advanced tools and multimedia tours make it a winner.

PC REVIEW VERDICT

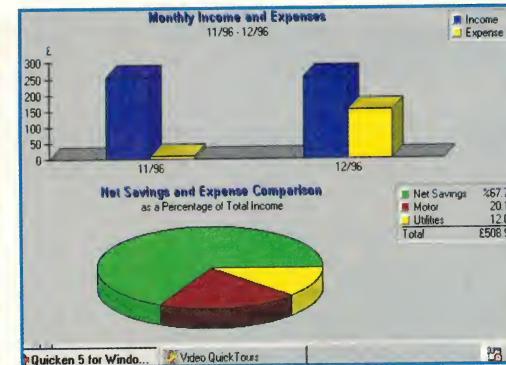


PC BANKING
Microsoft has set up a Web site to deal with the flood of interest expected from the introduction of PC Banking, which is supported by Money 97. You can access it at <http://www.microsoft.com/moneyzone/>.

BARCLAYS
Barclays is set to be one of the first UK banks to set up PC Banking – for more, write to: PC Banking, PO Box 99, Nelson, Lancs, BB9 8AQ.



Quicken's 'HomeBase' gives you one-click access to the program's main features as well as tabs for each window.



Generating reports and graphs is simple in Quicken, thanks to the wide range of pre-formatted variants.

Bank manager biting at your heels? We put the best two money management programs head to head and see which one deserves your readies...

Do you hide all your bank statements under the bed, hoping the bank manager won't notice, or do you get organised with a program like Quicken or Money 97?

Intuit has a market leader with Quicken. Microsoft, however, is keen to catch up – exploiting the potential of PC banking is one way to do it.

Both Quicken and Money 97 use account registers to record all payments and receipts, from writing a cheque to paying off instalments on a loan. By entering not only the amount and the payee, but also the reason for the transaction, you build an important tool for analysing the fate of those elusive pounds. Not only can you keep up to date with your bank balance without having to rely on bank statements, you can track investments, see details of forthcoming payments, display graphs and reports, and budget for the future.

The first step

In order to get started, all you need is your last bank statement, your credit card receipts, and your cheque book. After the account is set up, all you have to do is enter transactions and the balance will be updated automatically. No more excuses for those adding-up errors that send you overdrawn.

Other things like building society accounts, loans and credit cards are organised in the same way – you just type in the details, and these programs will do the book-keeping. Quicken has an immediate advantage over Money in that it provides a multimedia tour to guide you through the steps required to get you started. Each stage is explained in detail by on-screen tutors, who even speak with English accents.

Nevertheless, both programs are relatively jargon-free. The nastiest thing you'll have to deal with is reconciling your accounts. This means checking the items on your bank statement against the ones you've entered.

When was that bill due?

If you can never remember to pay bills on time, both Money and Quicken will alert you when you are due to pay (or receive) money. Whenever a bill or a payment is due in the future, you can enter the details before you part with the cash. When the payment is due, it is recorded and you are reminded to write a cheque or make a transfer. In theory, you should never miss sending off

those brown envelopes – accidentally, that is. Shares and other investments can be monitored too with both Money and Quicken. You enter the number of shares you hold and the amount you paid. Whenever you feel the urge, you can type in the share price, and you will get details of your portfolio value.

One major advantage of using PC-based software over handling finances with pencil and paper is that detailed reports are possible. By allocating each payment or receipt a category, such as 'salary' or 'water rates', you are able to keep track of your spending habits and your sources of income. However, the accuracy of these reports is very much up to you – the decision as to whether you type an entry every time you buy a newspaper, or whether you only record transactions going

through your bank accounts, is very much down to personal preference.

Quicken and more particularly Money are designed for use at home. There is little support for business orientated accounting. Quicken does include an invoicing program with its CD-ROM version, though. Quicken can also handle payrolls, but neither program has the capability to deal with the full range of business transactions.

On-line banking

The only clear advantage Money demonstrates over Quicken is its on-line banking potential. This program allows you to connect via modem to any bank that offers PC Banking. There aren't any at the moment, but Barclays Bank is expected to launch a PC Banking service this spring. Your account balances and any transactions will be downloaded on to your PC and you will be able to make transfers between accounts and pay bills directly through Money. Details of cheques that have cleared and payments in to your account will also be available for you to see – so you won't have to make any more trips to the bank to pay the gas bill. You'll need a modem, of course, and the tax man will still want paper-based records, but it's a step in the right direction.

Both programs are structured on very similar lines, but Quicken benefits from its easy to use presentation and its multimedia product tour. Quicken allows you to handle complicated transactions more easily, and is backed up by a comprehensive user manual on CD-ROM. If, however, you're eagerly looking forward to electronic banking, Money is the one to go for. (DR)

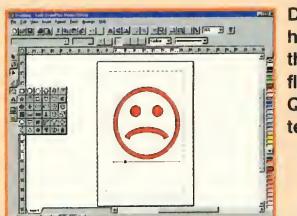
DRAWPLUS 3

DEVELOPER
Serif
SUPPLIER
Serif
CONTACT
0800 924925
PRICE
£59.95
MINIMUM SYSTEM
386, 8Mb RAM, Windows 95, CD drive

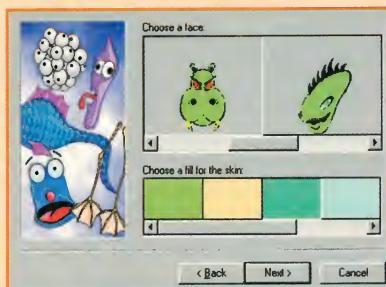
Perfect for beginners, yet capable of producing professional quality images as well.

8

PC REVIEW VERDICT



DrawPlus has by far the most flexible QuickShape technology.



With multitudinous Wizards, you can quickly create exciting images.

DRAWING PACKAGES

Corel Draw might look flash on your shelf, but what's the point if it's too complicated to use? Here are some friendlier alternatives.

You might be forgiven for thinking that big name programs like Corel Draw, Adobe Illustrator and Xara Studio were the only worthwhile drawing programs around. Actually, though, they have far more power than you're ever likely to need. Furthermore, they're very complicated and come with a hefty price tag. There are, however, inexpensive alternatives that are both easy to use and handy enough to do all the essential drawing tasks.

Call in the pros

Micrografx publishes a professional drawing program called *Designer*, and a lot of the technology from that program has filtered down to *Draw 5.0*, the home user version. Serif and Futurewave, on the other hand, have never published higher end programs, so *DrawPlus 3* and *SmartSketch 95* don't have any hand-me-down features from top flight packages.

All three programs take user friendliness very seriously, and they all have very clear, intuitive, easy-to-navigate interfaces. Via Wizards, *DrawPlus* and *Windows Draw* takes you by the mouse pointer and guides you through the process of creating dozens of projects ranging from cartoon strips to business logos. (A wizard is an automated tool in an application that builds a graphic for you in response to your answers to its questions.)

Precision of the Wizard

For instance, when creating a page heading, you might be asked the colour, position and style of graphic you want to use. Wizards also dip into the image catalogues. These enable you to select precisely the image you want, from the hundreds or thousands available. *SmartSketch* also has a library of images, but because it's supplied on floppy disk, unlike the other two, there aren't as many pictures for you to play with.

SmartSketch does score big points with its drawing tutorials. Because the program

can be used for sketching and drawing, there are many tutorials teaching you about the basics of art like perspective, colour, depth and so on. These highlight the one massive advantage that the program has over the others – its superb freehand drawing modes. You can doodle and use the eraser in freehand mode too, just like a painting program. However, the resulting pictures are of the same high quality as the other drawing programs. This may not seem special, but such an unrestricted freehand mode makes *SmartSketch* very useful. As if that weren't good enough, it also has SmartShape technology. That means that if you roughly sketch a shape, the program can recognise the shape you were trying to draw, and adjust your freehand doodle accordingly.

New league

The other two programs are more conventional, although both have extended the concept of QuickShapes into a whole new league.

QuickShapes are

drawing tools that produce simple shapes such as circles, rectangles and triangles. However, with *DrawPlus* and *Windows Draw*, you can create more complex shapes like multi-point stars and cartoon images including robots, boats and so on. Most of the shapes can be edited during creation. *DrawPlus* has by far the best shapes features, although the 3D shapes in *Windows Draw* are a refreshing addition.

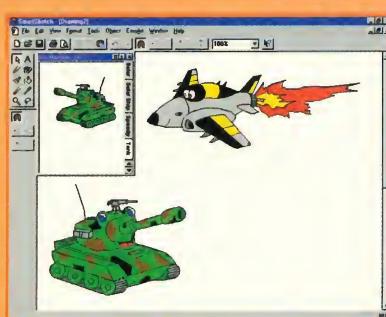
Windows Draw is definitely the more advanced of the programs on test here, and it uniquely includes the stunning ability to apply photographic effects and filters to vector objects. *DrawPlus* is only marginally less impressive, and it has a very, very extensive range of Wizards to help you do just about anything. *SmartSketch* is not so powerful for overall drawing, but its sketching abilities are excellent, making it a great choice for artists who like that immediate hands-on feel. All three programs are superb, but *Windows Draw* wins top place. (MB)

SMARTSKETCH

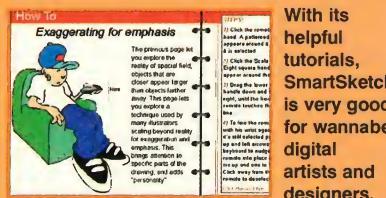
DEVELOPER
Futurewave
SUPPLIER
CGS Computerbuild
CONTACT
0181 679 7307
PRICE
£69.95
MINIMUM SYSTEM
386, 4Mb RAM, Windows 95, 1.5Mb hard disk space

Not such a good all-rounder, but there's a much more responsive and natural feel to the program.

PC REVIEW VERDICT



SmartSketch might not come with as much clip art as the others, but what's included has a lot of character.



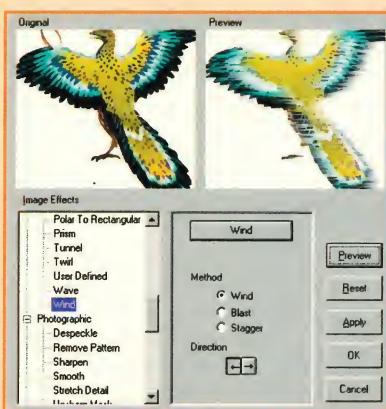
With its helpful tutorials, SmartSketch is very good for wannabe digital artists and designers.

WINDOWS DRAW 5

DEVELOPER
Micrografx
SUPPLIER
Micrografx
CONTACT
01483 747526
PRICE
£44.95
MINIMUM SYSTEM
486 DX/33, 8Mb RAM, Windows 95, 45Mb hard disk space, VGA, CD drive

A very powerful program, with some truly innovative and unique features.

PC REVIEW VERDICT



The superb Windows Draw is the first ever drawing program to let you add filters.

CD REVIEW

There's a full working version of Windows Draw 5 on our cover CD.

9



MAGNARAM 97

Computers are like racing cars. They're bottomless money guzzlers and can never go too fast. Unlike the car, however, the key to PC improvement is memory. Of course, you're only too well aware that you need memory to load games and other programs – it's one of the most basic components of any computer. What you may not know is how many other areas of system performance are also subtly affected by the amount of RAM available. For instance, if you start to run short the computer will automatically start using your hard drive as virtual memory, and the slower your drive, the slower your system. Also, when

loading from hard drive, your computer uses memory 'caching' to speed up and smooth out the flow of data.

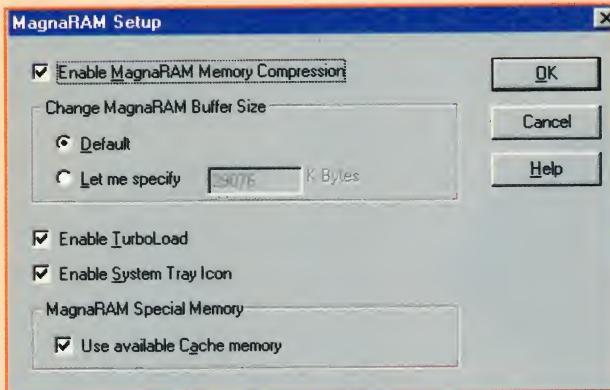
MagnaRAM enhances all of those areas and more. The basis for all the performance gains it offers is memory compression. It squeezes more data into the available space. The effectiveness of its compression will depend upon the type of data loaded into memory, but the most RAM-hungry data types, including graphics, are usually the most compressible, and typically the program can double the amount of available memory. This in turn delays or entirely prevents the need for virtual memory usage, so

your computer can continue to run at the speed of its chips, and not its hard drive... Or at least, that's the theory. In our tests, the computer actually ran a little slower with memory compression active.

One exciting feature that does work, though, is enhanced disk loading times. Even on our fast system, *Photoshop 3* takes over six seconds to load. *MagnaRAM's* TurboLoad feature active reduced this time to three seconds. (MB)



MagnaRAM aims to increase the capacity of your computer's memory, thereby reducing slow virtual memory usage.



You can activate RAM compression and TurboLoad independently of each other – just as well, since TurboLoad is much more effective.



MagnaRAM is especially at home when it comes to compressing graphical and textual data, which responds well to compression.

DEVELOPER
Quarterdeck
SUPPLIER
Quarterdeck
CONTACT
01628 666322
PRICE
£39.95
MINIMUM SYSTEM
8Mb, 386, Windows,
4Mb hard disk

You get dramatic improvements in program loading times, but RAM compression is poor.

5

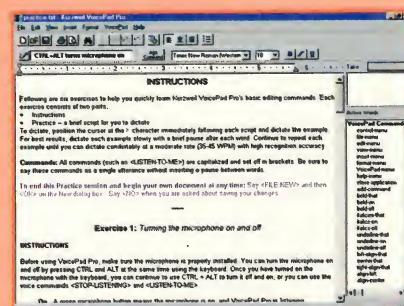
PC REVIEW VERDICT

VOICEPAD PRO

In the movies, even the cheapest computers have advanced voice recognition and artificial intelligence. In reality, voice recognition has a long way to go before it reaches that level, and half decent systems cost upwards of £500. Or they did...

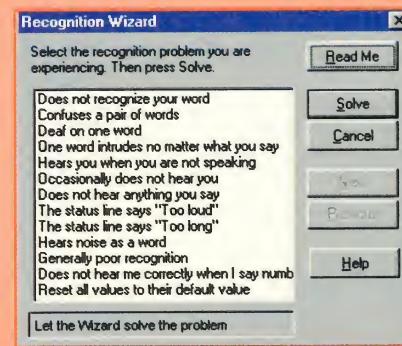
Kurtswell produces one of the most effective recognition engines on the market, and has just come up with a home version for under £100. *Voicepad Pro* comes complete with a headset microphone, but you will need a soundcard. At best, the program can recognise up to 90 per cent of words with no further training. This is partially due to its 17,000 word dictionary, and partially due to the versatility and power of its recognition engine.

You use the program much like you would a dictaphone, speaking relatively slowly, with a definite, but brief pause between each word. As you speak, *Voicepad's* transcription appears on the



Voicepad has its own dedicated word processor, which is adequate for most users.

screen immediately. If it mis-recognises a word just say, "Correct That," and you can tell it what you really meant. Each time you perform a correction, the program amends its internal database of phonemes (word building blocks), so that it learns to understand exactly how you speak, complete with any idiosyncrasies. Initially, it can be a bit



Continually mis-recognised words can be put right with the Recognition Wizard.

DEVELOPER
Kurtswell
SUPPLIER
Talking Technologies
CONTACT
0171 602 4107
PRICE
£92.83
MINIMUM SYSTEM
486 DX4/75, 12Mb RAM,
20Mb disk space,
soundcard, Windows 3.1

You can't control your computer with *Voicepad*, but for writing essays or letters, it's excellent.

8

PC REVIEW VERDICT

SOUND MIND

Think you have a nice sound card already? Better not read on, then, unless you're ready to step up to the new wave in audio.

Okey, so you've had your computer for a little while, and you've got used to what everything does. Now you're probably ready to start customising your machine, tailoring it to your exact requirements. What better place to start than with your soundcard?

If you were really lucky, you might have got a decent card with your system when you bought it – perhaps an AWE32 or a Gravis Ultrasound.

Chances are, though, that you just got a Sound Blaster 16 or, worse yet, one of the innumerable inferior clones. To be honest, these cards are okay if you're still using the tinny speakers that came with the system. But if you're the kind of user who immediately wires your computer into your hi-fi system, you'll probably be ready for something better.

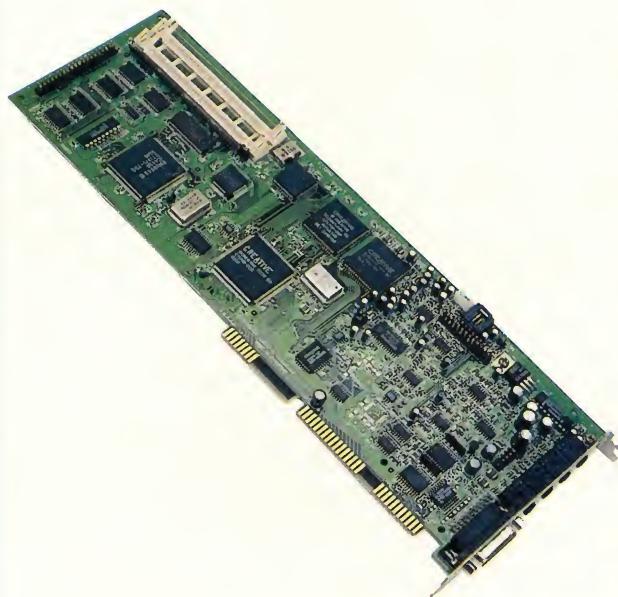
There are all sorts of exciting new innovations in the sound card market at the moment, covering every aspect of the field. For MIDI users, Yamaha's XG standard has increased the quality and number of instruments to staggering new levels, while several manufacturers are increasing the number of instruments that can be played simultaneously. For those who like recording and editing samples, improved component quality means that you can record audio at studio quality or better. Even games players are being catered for with new, richer, three-dimensional sound that gives surround-sound effects using only two speakers.

So let's take a look at the latest and greatest cards that money can buy. (MB)

Upgradeable RAM

One thing to note before you buy a sound card – particularly if you plan to use it for sampling your own sounds – is how much its RAM can be upgraded. This is because any new sounds you create will be stored in the card's RAM. Of the models on test here, the Pinnacle boasted the largest possible RAM cache at 48Mb. In second place comes the AWE32 which can be upgraded to 28Mb RAM. Trailing in a shared bronze position are the Tropez Plus and the Maxi Sound 64, each of which can go up to 12Mb. The MU10 and Sound Expert Deluxe can't be upgraded.

AWE32 PNP



It's not the best card, but the AWE32 is still the gaming standard.

Creative Labs doesn't offer the best, the cheapest or the most innovative soundcards, but Creative's cards are certainly the most compatible. The AWE32 represents the pinnacle of the current range, and for game players it's still the card to aspire to.

The AWE uses a 1Mb E-mu wavetable ROM for MIDI sounds, and while these are adequate for non-musicians, the sound will be a bit ready to the discerning ear. You can add up to 28Mb of RAM, and this can be used to build your own alternative General MIDI instrument set.

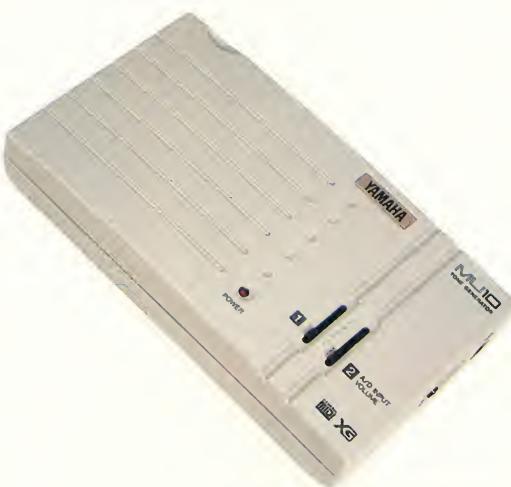
Bizarrely, although Internet WebPhone software is included, there's no longer a free microphone. Other software includes a powerful sound sampler, a program to convert your samples into MIDI instruments and Orchestrator Plus, a flexible sequencer. The AWE32 is still one of the best all-rounders.

DEVELOPER	SUPPLIER	CONTACT	PRICE
Creative Labs	Creative Labs	01734 344322	£160

For ease of use, general performance and compatibility, it has to be an AWE.



MU10



The MU10 offers all the benefits of an SW60, and you don't even have to open your computer case to fit it!

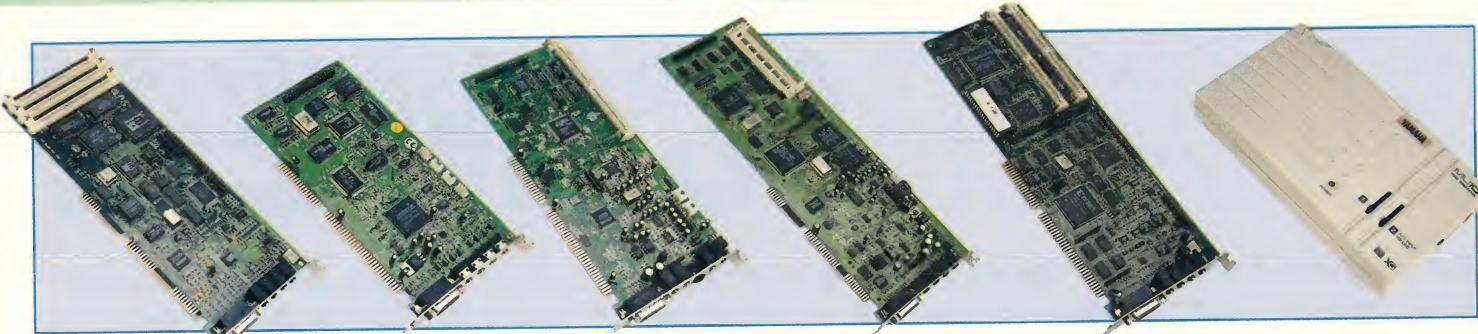
The MU10 is not a soundcard at all – it's an external synthesizer and effects box. It's built around Yamaha's award-winning XG chip set, the stunning new standard in MIDI instruments. It increases the number of effects, such as reverb and chorus to a hefty 64 effects. These can be applied to any MIDI instrument to create exceptionally expressive music. The three DSPs providing these effects can also be applied to a live audio signal.

The MU10 has 676 instruments and 21 drum sets stored in 4Mb of instrument ROM. Because it's external, you can plug it into your joystick or serial port. It has input and output sockets, so you can attach a voice mike, a CD player, or just about any other audio source. It's far cheaper than dedicated effects boxes, and more flexible too. Steinberg's Cubasis sequencer is part of the bundle.

DEVELOPER	SUPPLIER	CONTACT	PRICE
Yamaha	Et Cetera	01706 228039	£199

You can use the MU10 without even opening your PC. Yamaha's XG range just keeps improving.





TROPEZ PLUS

The Tropez started life very much as a card for sound sampling and boasts a signal-to-noise ratio and duplex sampling. The signal-to-noise ratio tells you how much interference (noise) is introduced by the board's circuitry. The Tropez has a level of 89 decibels, which is good enough for commercial CD recording, and head and shoulders above the AWE and its ilk.

Duplex sampling means that you can simultaneously record one sample while replaying another. This feature is essential if you want to use your PC as a multi-track recording studio.

The big addition to this version of the card is a decent wave-table instrument ROM. It comes with 4Mb, like the MU10, but because that only contains 128 instruments compared to 676 on the MU10, the sample quality is, if anything, even better. If you

want to add your own instrument samples, you can add up to 12Mb of standard SIMM memory and create your own sounds. The bundled software is excellent, especially the sequencer, Stratos. The card is Sound Blaster 16-compatible, so you should have no trouble playing games, either.

What the AWE32 is to gamers, the Tropez Plus is to musicians. Great quality and tons of features.

DEVELOPER	SUPPLIER	CONTACT	PRICE
Turtle Beach	Et Cetera	01706 228039	£269

The Tropez Plus is a perfect compromise between professional specs and 'home' prices.



MAXI SOUND 64 HOME STUDIO

Chances are, you haven't heard of Guillimot International before, but if this card is anything to go by, you'll be hearing about them a lot in the future. It's a brand new company set up purely to produce multimedia products.

The Maxi Sound 64 is in direct competition with the higher-end cards like the AWE32 and the Tropez Plus. With 4Mb of wavetable ROM, its instruments are markedly superior to the AWE's, so it's a good card for MIDI musicians.

Unlike the Tropez, it also supports wavetable daughter boards in case something even better comes along in the future. You can also add up to 12Mb of RAM if you want to create your own instruments. The 64 refers to the number of notes that can be played at once.

As for sampling, it's a full duplex card, and thanks to the bundled software, you can do real-time mix-downs using up to four inputs. The most original thing about the card is its quadraphonic audio output. Like the MU10, the

Maxi also performs special effects such as reverb and flange on live input. All the basics are here. Great.

Combining affordability with a versatile and impressive array of features, the Maxi Sound is our top tip.

DEVELOPER	SUPPLIER	CONTACT	PRICE
Guillimot	Ubi Soft	0181 941 4004	£189.99

The 64 Home Studio is a great all-rounder. We recommend it as your next sound card.



SOUND EXPERT DE LUXE WAVE 32 3D

Trust builds soundcards to a price. If you're a bells and whistles merchant who's more interested in flashy technical-sounding features than quality basics, this card might do you. On paper, it certainly looks okay, with its 3D surround sound, 16-bit sampling and wavetable instruments. Unfortunately, none of this promise translates into decent end results. The instructions are virtually non-existent.

Trust has opted for Sound Blaster Pro 2 compatibility under DOS, rather than the more common SB16 mode. This shouldn't cause problems, but it's hard to see why the firm chose this route. The sound quality is certainly an improve-

ment on the cheapest FM synthesis cards, but it's not as good as a Sound Blaster 16. It does come with 128 instruments stored in its 1Mb ROM, but these are barely better than the entirely synthesised sounds. There's no lack of bass, but all the sounds are rather muffled and thick, with no sparkle or zest. The drums are quite good, at least in MIDI mode. Given the low cost, it's a nice surprise to see a bundled suite of quite competent Voyetra programs.

You get what you pay for with the Sound Expert... you pay for a cheap Sound Blaster clone.

DEVELOPER	SUPPLIER	CONTACT	PRICE
Trust	Aashima	01376 501146	£89.99

An impressive sounding spec, but there are few situations where it is a worthwhile upgrade.



PINNACLE

Turtle Beach has never skimped on the quality, but even by its own standards, the Pinnacle is something of a masterpiece. The most important feature must surely be its incredible sampling abilities. With a signal-to-noise ratio of at least 97 decibels, no other sampling card comes close. It uses a 20-bit analogue to digital converter with 128-bit oversampling for recording to produce a truly superior and even professional end result.

The card supports full duplex, so it's ideal for multi-track recording and voice-overs. The Pinnacle is strong in other areas, too. It has 2Mb of wavetable ROM, but this

houses 4Mb of compressed instruments. The instrument quality is quite outstanding. The Pinnacle has fewer instruments than the MU10, but with RAM upgradeable to 48Mb you can always add your own. The problem is the fact that the card only works under Windows. Under Windows 3.1, you simply can't use the card with older DOS-based programs. But then all new games run under Win95, where they sound absolutely stunning.

DEVELOPER	SUPPLIER	CONTACT	PRICE
Turtle Beach	Et Cetera	01706 228039	£479

Pinnacle by name and nature, this really is the best all-round card that lots of money can buy.



WHICH SCANNER?

95% of the world's information is stored on paper. Isn't it time you did your bit to protect the world from deforestation? So buy a scanner...

A scanner is like a colour printer: it's not essential, and you can still use your PC without it. But once you own one, it totally transforms your view of computing, enabling creative possibilities that you wouldn't even have imagined before.

With a scanner, you can digitise any pictures you like and add them to your documents. Trying to convince your boss that your office is too small? Photograph it and show him! Want to prove to Granny how much you enjoyed the snowboard she bought you? Digitise a picture of you using it on holiday and include it in your next letter!

Of course, you don't have to scan pictures just to include in documents; you can scan them for their own sake and use them as the starting point for your own original works of art. Import the photo into your favourite graphics package, and with just a few filters and a bit of imagination, you can come up with something stunning. You can print these images out to hang on your wall, or you can iron them onto clothes using special printer papers. Once you get started, you'll have trouble stopping the ideas from flowing! How about making cross-stitch designs, or incorporating scans of your family into a family tree program, database or astrology chart?

There are many types of scanners for all manner of requirements. We've gathered a cross section of the most interesting ones here, so cast your eyes over this little lot. (MB)

Just too late

As we were going to press, a Sharp JX-250P was delivered. Although it was too late for a full review, we thought it deserved a quick mention. It's a 24-bit flatbed scanner with an optical resolution of 400x800DPI - the highest of the models we looked at. With interpolation, that rises to 1600DPI in both axes. Although it's an A4 scanner, it's nevertheless, the smallest unit we've seen. It's supplied with a SCSI interface and Twain drivers and costs £645.08.

You can find out more by ringing Sharp on 0800 262958.



SCANMAN COLOUR 2000

It's easy to use, it doesn't occupy much space, and you can use it to scan wallpaper while it's still on the walls.



Because it's a hand scanner, the Scanman Colour 2000 can only scan in strips as wide as its scanning head - about four inches. Its 'autostitch' mode joins multiple strips together, enabling you to scan much larger areas. On level surfaces and at low resolutions, this is easy enough, but if you try to scan more complicated jobs at higher resolutions you can waste a lot of time rescanning.

The optical scanning resolution is 400x800 dots per inch (dpi), going up to 1600 dpi with software interpolation. This is the highest resolution of any hand scanner we've ever seen, and it's more than you'll need.

The scanner only works under Windows 95, and it interfaces with your computer via the parallel port (a through connector ensures that you can still use your printer normally). It also comes with a superb CD tutorial plus graphics and text recognition programs.

DEVELOPER	SUPPLIER	CONTACT	PRICE
Logitech	Logitech	01306 734300	£119.99

If you can't afford a flatbed, the Scanman is a professional and easy to use alternative.



It's hard enough to find a reason to buy a sheet-feed scanner, but when it's as bad as this, it's impossible.



IMAGERY 4800SF

Sheet fed scanners are a strange breed. The page to be scanned is fed through the mechanism, much like paper through a printer. This means you can only scan loose leaf pages.

Sheet feed scanners are primarily designed for optical character recognition (OCR) work. This particular model is best suited to such work, thanks to its 10-page auto-sheet feeder. It also comes with TextBridge, a first class OCR program.

The 4800SF can do 24-bit colour and has one of the best Twain drivers around. But the driver is extremely unstable, and crashed many times during our test.

The scanner is also very sensitive to the type of media you give it. It'll often refuse to scan photos, postcards and a whole range of other media. At under two minutes for an A4 scan at 200 dpi, at least it's not too slow.

DEVELOPER	SUPPLIER	CONTACT	PRICE
Trust	Aashima	01376 501146	£169.99

The 4800 SF connects to your computer via the parallel port, but that's its only good point.





SCANTOUCH 110

The Nikon is a flatbed scanner, and this means that, as with a photocopier, you lay the document to be scanned face down on a glass bed. A scanning element then passes underneath, to record the image.

This model can cope with anything up to 11.7x8.5 inches in size. It has an optical resolution of 300x600, and twice that figure using interpolation. It's a single-pass device, and although Nikon claims a scan rate of 24 seconds for an A4 page at 300 dpi, our tests put it at just over a minute at 200 dpi. Nevertheless, this is more than fast enough for home use – you're unlikely to use resolutions much beyond 400 DPI.

It's a SCSI device, but it's the only one of those reviewed that doesn't come with its own interface. That's a pain when

you remember that few people actually own a SCSI interface.

It comes with both 16- and 32-bit Twain drivers, so it's equally at home in Windows 3.1 or 95. Unfortunately, the Twain driver is rather unfriendly, although it's more technical than most, so professional users may appreciate the additional control it offers. Nikon has bundled Photoshop LE for image manipulation, but unfortunately no OCR software.

Nikon's professional experience shows in the image quality of this model...

DEVELOPER	SUPPLIER	CONTACT	PRICE
Nikon	Nikon	0181 541 4440	£392.45

Middle-of-the-road performance, but expert users may like the versatility of its Twain driver.



1200SP

Of course, if you can afford it, 27- or even 30-bit scanning is very nice. But it's a feature that you pay extra for – usually quite a bit extra. For most home users, 24-bit colour is more than enough. Even decent colour printers rarely reproduce anything like a full 16.7 million colour 24-bit palette. In fact, most struggle with the 64,000 colours of a 16-bit palette.



If you're not a professional, there's no reason to spend money on anything more powerful than this.

Far more important is the scanner's price, and they don't come any cheaper than this one from Devcom. It has an optical resolution of 300x600, and with interpolation that rises to 1200 dpi. It's a single-pass device, like

all the others, and it takes about a minute and a quarter to scan an A4 page at 200 dpi.

It comes with its own SCSI interface, and a Twain driver. Although it can use any interface from DOS, under Windows, we were unable to set it up on our Adaptec interface.

It comes with TextBridge Classic OCR software on disc, and you can upgrade to the Pro version for little extra. What the 1200 lacks in finesse it makes up for in affordability.

DEVELOPER	SUPPLIER	CONTACT	PRICE
Black Widow	Devcom	01324 825999	£198.58

The 1200SP is the cheapest flatbed scanner in town, yet comes with a powerful software bundle.



CANOSCAN 300

The CanoScan is smaller than a family size packet of cornflakes, but it still manages to provide full-page, full-colour A4 scans at 200 dpi in a touch over 40 seconds. The one thing that really differentiates this scanner from the others, is the colour depth that it digitises. It uses 9 bits per colour (27-bits overall) in the scanning process, although, like all the others, it only saves 24-bit images. Nevertheless, this extra depth during capture enables the scanner to more accurately duplicate subtle tones and contrasts.

The CanoScan has a wonderful Twain driver, with really easy to use colour balancing controls. These are particularly friendly thanks to the multiple image preview mode, that shows you a vari-

ety of alternative settings simultaneously. Canon also supplies software which turns your scanner into a photocopier in conjunction with your printer. It photocopies far more slowly than it scans, but it's still a bonus that makes your scanner even more useful. The unit's physical resolution is 300x600 dpi, and with software scaling this rises to 600x1200. Like most flatbeds, this is a SCSI device, but an interface is included.

The CanoScan's strength is its beautifully crafted Twain and copying software.

DEVELOPER	SUPPLIER	CONTACT	PRICE
Canon	Canon	0990 143723	£386.57

It has a powerful Twain driver and also functions as a photocopier. No OCR software, though.



PAPERPORT IX

Colour scanners are so inexpensive, and you get so much more for your money, it barely seems worth considering black and white scanners. This is the exception, thanks to its incredible versatility. Essentially, it's a keyboard with a sheet-feed scanner bolted to the back. It connects to a computer

via the keyboard connector and the serial port. There are no pass-through connectors, but if you want a parallel port adaptor, you have to send off to get one.

The PaperPort works automatically when you feed in a sheet of paper, scanning for OCR, greyscale photo

scanning, photocopying, business card scanning and image compression for Internet transmission. The software really is easy to use.

The keyboard itself is quite disappointing – it just isn't very tactile at all. All things considered,

though, this clever scanning keyboard is a rather impressive first step, and points the way for

things to come. Expect a colour model within a year.

DEVELOPER	SUPPLIER	CONTACT	PRICE
Visioneer	Visioneer	0181 477 5000	£323.12

Greyscale scanners are outdated now, but the PaperPort is still an innovative solution.



SEARCHING
WITH THE
AND, OR AND
NOT OF
BOOLEAN
LOGIC

The more precise you make your search request, the better success you'll have. Boolean logic uses the terms And, Or and Not to constrain searches. For example, type "Anderson AND Farm" if you think adding information about your friend's agrarian pursuits will help you find him. If you want results to turn up with both of your cousins, type "Betty OR 'Frieda' And to prevent your ugly uncle Sylvester from popping up in a search, type "Smith NOT Sylvester."

YOU'RE DESPERATE
If all else fails, you can send a message in a bottle, so to speak. Point your browser to People Finder <http://www.stokesworld.com/peoplefinder>. This service lets you post general inquiries about the person you're looking for, and how you can be contacted. People Finder has categories such as Former Spouse, Genealogy, and Veterans. There's also a Usenet news group, (soc.net-people) where you can likewise holler into the darkness for your lost friends. Who knows? Maybe somebody recognises your missing person and will help you get in touch.

ABOUT THE AUTHOR

Dave Cravotta is a freelance writer based in Southern California. He has written for *Wired*, *Popular Science*, *United Press International*, among other publications.

How to...

FIND PEOPLE ON

Missing someone? Finding a long-lost person is just a few keystrokes away on the Internet.



If you've lost touch with your first sweetheart, an old friend from school, or someone you worked with years ago, there's a good chance you can find that missing person if they're using the Internet. Perhaps you're looking for relatives to add to your family tree, or you'd like to contact someone you met at a party last week who didn't give you a phone number.

Although it's easy to lose track of people when they change jobs, neighbourhoods or phone numbers, they still leave indelible trails you can follow as they move through the Internet. You can even look up street addresses and phone numbers of some people, regardless of whether they've ever ventured on-line.

Getting started

If the person you're looking for uses electronic mail, has a Web page, posts Usenet articles, or participates in mailing lists, it's likely you can track him or her down in one of the on-line databases. Although there isn't one universal place where you can look up someone's name, you can save search time if you know a little about your targets. Do you have an idea of where they work or go to school? What about their religion, hobbies or other interests? You can look up people in lists of Christians, Vulcanologists and transportation professionals for example – see the sidebar for addresses.

Usenet

A good place to start your search is in *DejaNews Research Service*. Every time you post an article in a Usenet newsgroup, be it your advice on teaching parrots to talk or an offer to sell Nintendo gear, your email address and name appear in the header. More than 80 million articles from 15,000 newsgroups have been archived in *DejaNews* since 1995, and hopefully the person you're looking for posted at least one of them.

Point your browser to *DejaNews* and type in the name of your long-lost friend in the search field. With luck, a list of his or her articles will pop up. Browse through them and see if they sound like something your friend would have said.

School

Maybe you'll find your missing person in school. The foxy lady you met in some shop said she went to Oxford University, for example. First, visit this list of colleges in the UK, and from there link to Oxford University's home page, from which you can look up phone numbers and email addresses. There's even an international list of college homepages you can access. If you believe your target already graduated, he or she could be listed in an alumni database. The biggest of these is the *World Alumni Page*, which features a United Kingdom section.

Work

Believe it or not, people often find employment after school. If you suspect your missing person is gainfully employed, try searching for his or her company. The best place to start you on your quest is the UK Business Directory.



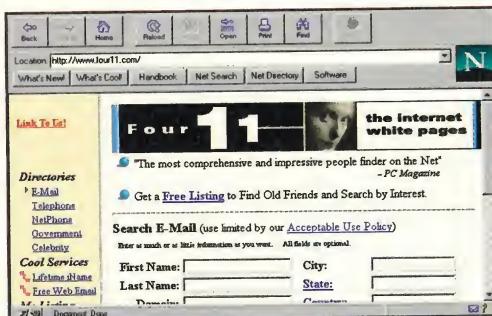
Find people
Behind the box! Thank heavens for the Net.



THE INTERNET



Many groups have their own directories. So if you know your pals a Christian...



Consulting the Internet white pages is cheaper and less smoky than hiring a private detective.



Find business

Many of the same techniques will help you locate missing businesses. Just in case you've lost one.

Follow a relevant link, then see if the firm's Web page has an employee directory you can snoop through.

Get that email address

You can always type someone's name into a search engine such as *Yahoo* or *Alta Vista* to get their home page, but there are large archives devoted to gathering names. *Four11 Directory Services* lists eight million names. It's a good place to start. There are provisions for people who sign up to enter their maiden name, so even though they've married, old friends can still find them.

Mailing lists

There are thousands of mailing lists on the Net where people discuss every imaginable subject, whether it's hang-gliding or blindness, their particular political, religious or sexual persuasion, favourite bands and other

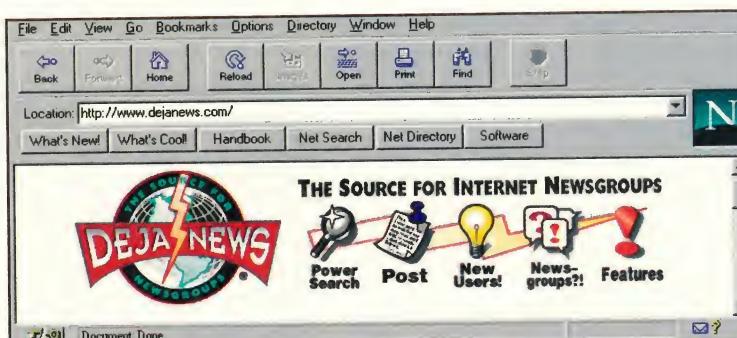
affiliations. Your target could be a member of one of these lists. One way to look for archives of mailing lists is to simply plug in the terms 'mailing list archive' into your favourite search engine, like *Alta Vista* or *Yahoo*. Not every mailing list is archived, but often you can send an email command to the list server that will automatically return a list of its members, which you can search through for your person. Due to the variety of mailing list programs, there isn't room here to note all the different commands to get a list of subscribers. But on the Internet, you'll easily find help with mailing list commands for your particular group.

Making contact

Just because you've tracked someone down and now know how to make contact with that long-lost person, you should consider the fact that it might not be a good idea to reach out and touch him or her after all these years. You never know what will happen after you pick up the phone, send surface mail, or dash off an email.

Thomas G. Martin, a private investigator in Southern California once had a case where a 35-year-old woman discovered she was the result of a union between her

mother and a man who had been cheating on his wife. She looked up her biological father on the Internet and wrote him a letter. Unfortunately, Martin reports, the man's new wife intercepted the letter and all Hell broke loose. "It's fine to access this stuff," says Martin, "but you have to know what to do with it. A guy looks up his old college sweetheart and calls up. Her husband answers and says, 'Why are you calling my wife? Don't call!'" So if you do decide to contact your missing person, be careful! And keep in mind, someone you've been searching for might be looking for you on the Internet right now too. (DC)

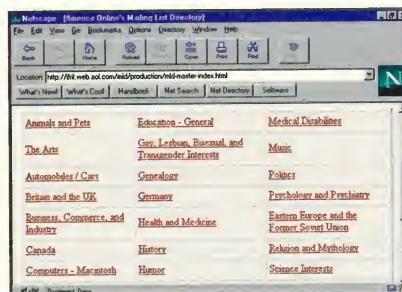


Has your long lost pal been posting his opinions to Internet newsgroups?

PHONES AND STREET ADDRESSES

Currently there really isn't a good online database of residential phone numbers and street addresses for Britain, but if you're searching for an expat living in the US, try *Switchboard* (<http://www.switchboard.com>). This database holds more than 90 million names, culled from telephone white pages, information given by consumers on product warranty cards, real estate records, and other sources. Simply type in the person's name, and if you want to narrow the search further, add the city and state. You can also get someone's email address from *Switchboard*, provided he or she has registered.

To look up phone numbers and addresses in other countries, check out the *International White and Yellow Pages* at <http://www.wajens.no>.



You might find your friend on a mailing list, if you know his likely interests.

SOME SITES TO GET YOU STARTED

DejaNews archive of Usenet articles
<http://www.dejanews.com>

Colleges in the UK
<http://www.mit.edu:8001/people/cdem/ello/uk.html>

World Alumni Page
<http://www.infophil.com/World/Alumni/>

Directory of Businesses
http://www.yahoo.co.uk/text/Business_and_Economy/Companies/Directories/

Four11 Directory Services e-mail addresses
<http://www.four11.com/>

List of Mailing Lists
<http://ifrit.web.aol.com/mld/production/mld-master-index.html>

For a handy pointer to a list of more than 2700 lists, with descriptions of each list, try
<http://ifrit.web.aol.com/mld/production/mld-master-index.html>

Peoplefinder Web site for shots in the dark
<http://www.stokesworld.com/peoplefinder>

Usenet newsgroup dedicated to finding people
<http://soc.net-people>

For more information about mailing lists, and lists of them
<http://www.nova.edu/Inter-Links/listserv.html>

Switchboard telephone numbers and street addresses in the US
<http://www.switchboard.com>

International telephone numbers and street address listings
<http://www.wajens.no>

Alta Vista
<http://www.altavista.digital.com/>

Yahoo
<http://www.yahoo.com>

And a few more important sites

Christians http://www.cs.odu.edu/~eisen_j/ccon/list.html • **Vulcanologists** <http://www.aist.go.jp/GSJ/~jdehn/vnews/vlist1.htm> • **Transportation professional** http://dragon.princeton.edu/~djh/TRANSPORT_NAB/ • **Oxford University** <http://www.ox.ac.uk/> • **Cambridge University** <http://www.infophil.com/UK/Alumni/CAM>

How to...

GET TO GRIPS WITH DRAW 3

Not only does CD REVIEW bring you the full version of Windows Draw 3 – but now we even tell you how to use it.

On this month's cover CD you'll find *Windows Draw 3*, the full drawing package from Micrografx. To help you get the most out of its powerful features we've condensed the key features into the easy to follow guide.

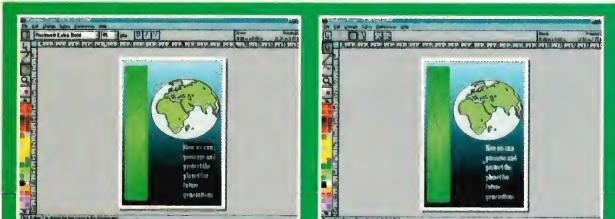
For starters, take a look at our demo sequences too to give you an idea – and some hot tips – on making the most of this top, simple to use package.

The Windows Draw Window

Think of the main window as an electronic canvas with drawing and working areas. You can use the drawing area to create and view drawings and symbols. Outside this, you will find the working area (or pasteboard), a place for storing and editing your designs.

Using the Status Bar

The Status Bar gives you four types of information: the top left corner tells you the type of symbol selected; the top right corner gives the symbol's degree of rotation; the bottom left corner shows you the symbol size; and the bottom right corner indicates the pointer's position in the window.



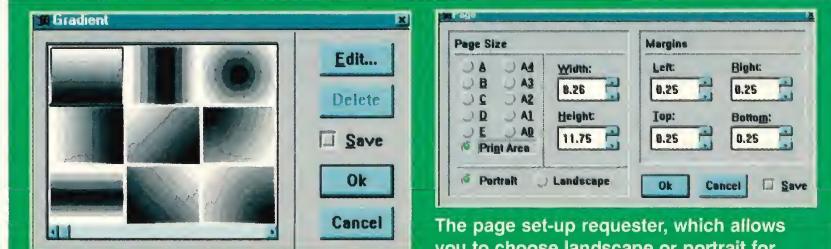
1 Using a black to cyan gradient top to bottom fill for the background, and a dark to light-green centred one for the left-hand patch, the page really takes shape with the addition of a map of the world. This image was copied from one of the tutorial pages on your CD.

2 We've drawn a curve from top left to mid right, and it's being altered slightly using the Reshape tool to extend it and give it a larger sweep. This curve isn't going to be part of the drawing though – it will be a path along which text is drawn.



3 Text is entered in the pasteboard area and coloured. By multiple selecting the text and the curve, the menu option Change/fit text to curve becomes active, and allows you to 'pour' words around the shape.

4 And here's the finished cover. The shaped text is fine, so the curve can be deleted, and the explanatory notes have been easily moved to the left and expanded to make better use of the space, heightening their impact.



The page set-up requester, which allows you to choose landscape or portrait for your work in pre-set or user-defined sizes. Margins are also controlled here.

Working with Symbols

The *Windows Draw* help system refers to graphics and text (converted to curves) as 'symbols'. You can select a symbol by pointing to it and clicking Button 1. The pointer sometimes changes to indicate the current mode. *Windows Draw* provides three ways for you to select symbols:

ONE SYMBOL: Point to it and click Button 1 to select it

A GROUP OF SYMBOLS: Drag a dotted rectangle around the symbols using the pointer

ALL SYMBOLS: Open the Edit menu and choose the Select All command (or just press [F2])

Using Handles

Each symbol has an invisible 'bounding box' surrounding it. When a symbol is selected, 'handles' appear on the corners and in the center of the sides of the bounding box. Handles appear at both ends of a selected line. You use handles to resize selected symbols. When you drag a corner handle, the symbol resizes proportionally. When you drag a side handle, the symbol resizes non-proportionally. You can choose the Handles command in the Preferences menu to change the default handle size from medium to small or large.

About On-line Help

On-line help messages provide detailed information about commands, dialog boxes, buttons, and tools; techniques for drawing and editing; and additional concepts specific to *Windows Draw* and the Windows environment. Using on-line help is more convenient than using a manual because getting information on any subject is as easy as pressing a button. You can access help one of two ways. The first way involves pressing [F1] to access 'context-sensitive' help. When you press [F1], you receive a help message specific to the command, dialog box, button, tool, or symbol you choose or open.

To access context-sensitive help:

- A. Highlight a command, open a dialog box, select a symbol, or choose a tool or button.
- B. Press [F1]. A context-sensitive message appears in the help window.

The second way involves using the Help menu. This lets you access information about *Windows Draw* commands, terms and phrases, error messages and solutions, shortcut keys, and topics specific to *Windows Draw* and Windows.

File Menu Commands

The File menu commands let you clear the drawing area; open, save, import, export, and print files; change the setup of your printer; add ClipArt; and quit.

New: Clears the *Windows Draw* window.

Open: Opens a previously saved file.

Recall: Lists the last nine DRW files opened or saved.

Save: Saves the file on which you are working, using the current filename.

Save As: Assigns a name to a file or makes a copy of the file under a new name.

ClipArt: Lets you preview ClipArt.

Export: Exports the selected symbol or the drawing in the format you choose.

Import: Imports a drawing in the file format you select.

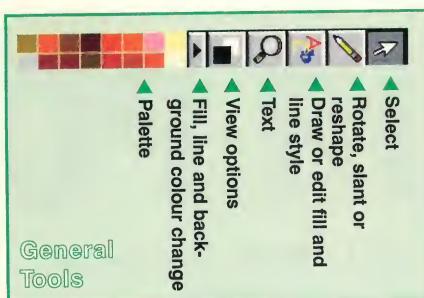
Printer Setup: Selects a printer and changes the output options.

Print: Prints your image.

Exit: Closes *Windows Draw*.

Edit Menu Commands

The commands under the Edit menu undo operations and transfer symbols to and from the Clipboard. The Edit menu commands can also be used to select and duplicate symbols, and clear selected symbols from the drawing and working areas. Here's a description of the variety of commands you'll find in the Edit Menu...

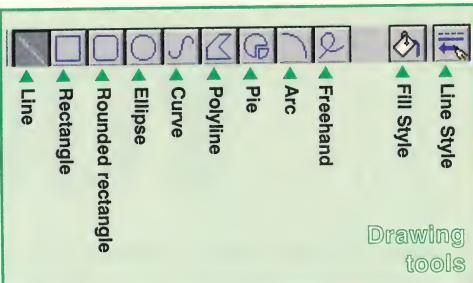


Undo: Reverses the last edit or change to a symbol.
Cut: Cuts the selected symbols to the Clipboard.
Copy: Copies the selected symbols to the Clipboard.
Paste: Pastes the selected symbols from the Clipboard.
Delete: Deletes the selected symbols from the drawing.
Duplicate: Lets you create duplicates of text, symbols, and points selected.
Select All: Selects all symbols in the window.

Change Menu Commands

The Change menu commands let you align, arrange, flip, name, and change the order of symbols. You can blend two symbols, convert text to Bézier symbols, place text along a curve, and change paragraph and margin settings of text.

Align: Aligns symbols precisely within the bounding box of selected symbols, or to the rulers.
Arrange: Combines and breaks apart individual symbols.
Background: Changes the background of the selected symbol from opaque to transparent.
Flip: Flips (or mirrors) selected symbols horizontally or vertically.
Order: Moves a selected symbol to the front or to the back.
Convert to Curves: Converts the selected text to Bézier curves.
Fit Text to Curve: Places selected text along the border of a symbol.
Paragraph: Sets text margins.
Justification: Sets text justification.



Name: Assigns a name (or identifier) to a symbol.
Blend: Transforms one symbol into another symbol.

Colours Menu Commands

The Colours menu lets you edit and delete colours, open and save colour palettes, and reset the colour palette to the default. You can create nearly any colour you want.

Edit: To edit the colour palette.
Delete: Deletes a selected colour.
Reset: Resets the colour palette to the default palette.
Open Palette: Opens a palette.
Save Palette: Saves the current palette.

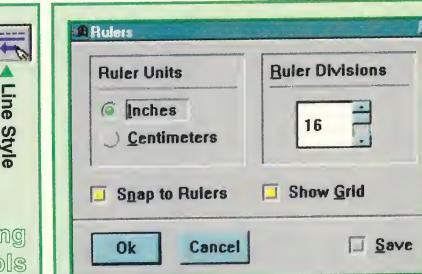
Preferences Menu

The Preferences menu commands let you change the default page size, the rulers, and symbol handles, and let you automatically scroll the window (in zoom mode only).

Auto Scroll: Turns on and off the ability to automatically scroll the window.
Page: Sets the page size, page margins, and page orientation.
Rulers: Sets ruler increments, turns on or off Snap to Rulers and Show Grid, and lets you choose ruler measurements (inches or centimeters).
Handles: Changes the size of symbol handles.

Converting Text to Symbols

The Convert to Curves command in the Change menu converts selected text to Bézier symbols.



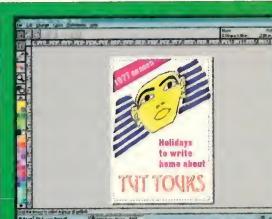
The Rulers requester controls snap-to-grid functions too.

Settings

Quick Keys

The list below contains all of the shortcut keys in Windows Draw.

Align Bottom	[Ctrl] + [F8]
Align Center	[Ctrl] + [F5]
Align Left	[Ctrl] + [F3]
Align Middle	[Ctrl] + [F6]
Align Page Center	[Ctrl] + [F9]
Align Page Middle	[Ctrl] + [F10]
Align Right	[Ctrl] + [F7]
Align to Ruler	[Ctrl] + [F2]
Align Top	[Ctrl] + [F4]
Close	Alt + [F4]
Connect	[F11]
Copy	[Ctrl] + [Ins]
Current Topic	[F1]
Cut	[Shift] + [Del]
Delete	[Del]
Disconnect	[Shift] + [F11]
Duplicate	[Ctrl] + [D]
Flip Horizontally	[F7]
Flip Vertically	[Shift] + [F7]
Group	[F5]
Move to Back	[F9]
Move to Front	[Shift] + [F9]
Name	[F12]
Paste	[Shift] + [Ins]
Print Page	[Shift] + [F4]
Print View	[F4]
Redraw	[F3]
Save	[Ctrl] + [S]
Select All	[F2]
Undo	[Alt] + [Bksp]
Ungroup	[Shift] + [F5]
View Previous	[Ctrl] + [V]
Zoom	[Ctrl] + [Z]



1 There is no trace function in this version of Draw, but you can achieve similar effects. Here a 24-bit image of the mask of Tutankhamun has been opened, and we're beginning to draw filled shapes around the outlines (look on the azure horizontal bands on the left of the mask).

2 The facial features have been drawn in now, again using the Polyline tool which can be closed using [F11]. This tool lets you click and drag a line as you progress, and at high magnification even curves are achievable with short strokes. Working by hand, we now have the basis of a new picture.

3 The background picture we used as our original has been moved out of the way. It has served its purpose and can be deleted. What remains is a tracing of the parts of the image we wanted. Notice the different fills used – solids for the eyes, but various gradients for the skin and lips of the mask.

4 The separate elements which went into making up the traced image have been grouped using the Arrange menu option, and the whole lot has been slanted with one mouse movement. Text has been added, and the red flash is simply a filled Polyline drawn freehand. Now for the finishing touch...

5 With a gradient fill added to the background, this was actually drawn on top of the page, then sent to the back using the Order menu. The starburst is, again, a freehand-drawn filled Polyline. Emphasis has been given to the text text by duplicating it, and offsetting one of the copies underneath.

How to...

SURVIVE YOUR PC

STRESS TESTS

You probably know when you're stressed. Yet stress often occurs when we're least able to do anything about it. Break the stress cycle as soon as possible, before it turns painful. If you suffer from any of the following symptoms, it's time to take a coffee or a Kit Kat.

1. Frequent headaches.
2. Regular muscular aches and pains.
3. Recurrent indigestion and heartburn.
4. Moodiness and irrational anger.
5. Disturbed sleep.
6. Constant edginess and tension.
7. Skin rashes.
8. Bursts of rapid heartbeat.
9. Unusual lethargy or laziness.
10. Increased need for alcohol.

SWITCHING TO THE DVORAK LAYOUT

Unlike the QWERTY keyboard, normal typing with the Dvorak system has 80% of the keystrokes on the home row. As well as enabling a faster typing speed, it's much less stressful on the hands. To use Dvorak, you'll need a simple software change and a not-so-simple retraining of your touch-typing skills.

Visit the following site for more information on Dvorak, including information on installing it on your PC (If you don't have Net access, phone Microsoft on 01734 576744 and ask about Dvorak drivers for Windows.)

<http://www.sliceoflife.com/Official/Huang/dvorak.htm>

Warning: PCs can damage your health. If you want to avoid slipped discs, RSI and myopia, you'd better read this...

THE CHAIN

Most PC-related illnesses arise from body tension, which is in turn linked to bad posture. You can stretch all you like, and make every effort to keep relaxed, but if your chair forces you to adopt an unfavourable sitting position you'll soon get aches and strains.

Firstly, make sure you're sitting upright. Your spine should follow the shape of the chair, not lean against it at an angle. Your thighs should be parallel to the floor and your feet should split your weight between them and your seat. The seat should be adjustable to accommodate your own leg length. A swivel chair enables you to rotate to pick up phones or a Coke without twisting. Kneeling chairs were popular a few years ago, but a well-designed typist's chair is better tested and will do the job.

Sit upright but don't strain. Keep your head and shoulders loose and let your arms drop away from your sides. Use arm and wristrests with caution, since they can force your arms up into your shoulders. The Alexander Technique (one popular and successful method of combating chronic RSI)

pictures the top of your head hooked on to a string, lifting away from your neck.

Whilst it's important to look after your head, don't neglect your feet. A footrest helps those with short legs to remain in the correct position without sitting too low. Some footrests are textured to massage your feet. A couple include footkeys to augment your keyboard, replacing, for example, the [Shift] key.



THE DESKTOP

When you think of problems with PC ergonomics, you probably think of your keyboard. Everyone has heard of RSI – if you work with computers you might have met people suffering from it. RSI is a controversial complaint, with doctors unsure of its cause and some even questioning its existence. RSI stands for Repetitive Strain Injury, and historically the cause has been attributed to repeated use of a keyboard. Recently though, medical thinking has shifted to body tension.

Still, your keyboard is the start of many of your ergonomic problems. Keyboards usually follow the QWERTY pattern, which was actually designed to slow down early mechanical typists. And today's untrained word-processor users can quickly strain their hands travelling back and forth across a keyboard. An alternative is the Dvorak layout (see sidebar). Ergonomic models, such as the Microsoft's Natural Keyboard, split the keys into two tilted groups to cut down on travelling time and the reduce wrist stress.

Although ergonomic keyboards can be hard to find in the high street, you do need to try them out first since you want one you're really comfortable with. Make sure it's got retractable or adjustable legs and that

the keys are comfortable. You might prefer soft-touch keys to audibly 'clicking' keyboards.

As for posture, your arms should hang loosely from your shoulders with your forearms parallel to the floor. Your hands should float above the keys, with your fingers dropping down to type. Don't rest your wrists as you type.

Many people find wristrests useful for resting their hands when not typing, although some therapists believe they can encourage undesirable tension in the arms. Foam wristrests are the cheapest, and they do the job. Avoid plastic models with sharp corners.

In recent years the mouse has come to the fore as a suspected cause of arm discomfort. Consider changing your pointer

speed in Windows so that you move the mouse less. And keep it close to your keyboard to prevent stretching your arms. You should also keep your mouse roller clean to stop it sticking.

Be sure to relax and stretch your mouse-operating arm periodically. If you do get problems, take a look at touchpads or trackballs as an alternative.



You might think your 3D rendering is a lot safer than your neighbour's white-water rafting. But in fact you're at risk from a huge range of PC-inspired illnesses, from RSI conditions such as tendinitis, carpal tunnel syndrome, joint irritation and to headaches, muscle aches and eye strain. The general name for these is Sick PC Syndrome - a bit ironic, since it's you who's at really at risk, not your computer.

RSI is particularly insidious. At its most extreme it's a debilitating disease that prevents typing or even turning on a tap. Prevention is the best cure. With a proper ergonomic workspace, regular stretching, decent posture and screen breaks, your chances of RSI are much reduced.

THE DESK

All right, so you're unlikely to put as much time into considering the shape and style of your desk as you would your car. Indeed, most home computers sit perched on precarious edifices that would make the architects of Pisa blush. For safety reasons alone, though, the desk should be sturdy enough to easily hold the combined weight of your PC paraphernalia. You might be able to place your PC's base unit on the floor, but remember that the monitor should be up at eye level. Interestingly, IBM gives all

SCREEN BREAKERS

Many task managers like Sidekick and BarClock for Windows enable you to set break alarms. These encourage you to take regular breaks and stop you getting lost in your work. Unfortunately, Windows 95 has made task managers like these redundant, so their handy reminder gadgets have fallen out of use too. You will occasionally run across shareware programs which do the same thing, and an American company called Ergoware specialises in the market. Its Ergominder program interrupts you at regular intervals to play videos of the exercises you should be doing. There's no UK distributor, but you can order one from inet@ergoware.com. If you find any others in Britain, let us know.

its employees six feet square of desk place. This would be difficult to achieve in the home, but small footprint printers and proper shelving can help you get close. Avoid shiny desks which might cause eye strain.

Where you site your desk is important, too. Try to design your PC area so that everything you need is to hand, without cramping you or restricting your space. Walking away from the PC shouldn't be awkward, since this will discourage you from taking regular breaks. The most important criterion is lighting. Ideally, you'll have windows to the left and right of the PC with no direct sunlight falling on the screen. Turn the room lights on after dark.

THE MONITOR

There remains some disagreement as to whether a large or small monitor is best for your eyes. A higher-definition monitor certainly is superior, though. Avoid interlaced monitors at all costs, because the flickering can drive you mad.

A 70Hz refresh rate is ideal.

The best monitors are the new thin LCD models - the definition and colours are stunning and there's no flicker. But there's not much change from a grand either.

You can improve your monitor cheaply with an anti-glare screen. These reduce monitor emissions considerably and prevent room lights from reflecting off the display. You'll probably find, though, that you'll need to turn the contrast up.

Eye exercises are tremendously useful, since long-term monitor-watching is at least

as unhealthy for your eyes as typing is for your hands. But first, make sure you're sitting upright in front of the monitor - not looking down on it - with your eyes about 45cm to 70cm from the monitor screen. The top of the monitor should be slightly below eye level. Note that you should just look away from the monitor from time to time, to refocus your eyes.

Exercises are best performed during your regular screen breaks. Put your elbows on the desk and cover your eyes with the palms of your hands. Open your eyes and stare into the darkness for about a minute. Remove your hands from your face, blink, and then repeat. Next circle your eyes to the left and the right. Hold a pencil in front of a wall, focus your eyes on the pencil then refocus on the wall. Repeat a few times. Finally look through the window and focus on something as far away as possible.

These exercises will only take a couple of minutes, but they might prevent headaches, the need for spectacles and even temporary blindness. (OB)

SPEAK TO ME

Voice recognition systems, such as those produced by Dragon Systems or Talking Technologies, get you off the keyboard altogether. They're of most use to professional typists or chronic RSI sufferers - most other users will probably need the mouse too much to find them useful. If you're writing a novel you might just experience some benefit, though. The cheapest product is VoicePad Pro, and it's available from Talking Technologies on 0171 6024107. See our review of this program on page 93.

Work your body

The following exercises, a few times a day, will release tension.

1 STRETCH AND RELEASE

Before Red Alert or a mammoth Imagine 4.0 session, gently stretch out all your limbs and joints. Pay particular attention to your arms, neck and shoulder muscles. Breathe deeply to fully relax.



2 FOREARM STRETCH

Place your palms together as if praying, then move them down in front of your chest until you feel a slight stretch in your wrists. Keep relaxed at all times, especially in the shoulders. Lift your hands back to chest height and then push your hands against each other alternately. Repeat, then shake loose.



3 FINGERS AND PALMS

Completely relax your arms, then gently stretch your fingers as much as you can WITHOUT pushing into pain. Hold the position for a few breaths. Let go, then ball your hand into a loose fist. Repeat a few times, keeping all the muscles in your hands, arms and fingers then shake out your arms and fingers.



4 NECK ROTATION

Sit with your spine erect but relaxed. Loosen your shoulders and place your hands in your lap. Now rotate your head, both clockwise and anti-clockwise. It is vital that you keep your posture upright throughout the exercise. Never cross your legs as this can place huge pressures on your spine and your neck. We want to keep you well, after all!



5 SHOULDER MASSAGE

Gently force your fingers into the muscle joining your neck to your shoulders. Work down your neck, massaging your muscles as you go and then repeat in the other shoulder. Finally, rotate your shoulders forwards and backwards a few times, and relax.



Now you've completed these exercises, you should feel much less tense. Good - you're now ready to get beaten up by Tomb Raider...

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How do you store sound files on your Web pages? How do you program in Java? How can you view hidden files? How can you upgrade your processor? Read on to discover all this and more...

SOUNDS CONFUSING

QI have just started playing around with the free World Wide Web space given to me by my Internet service provider. I've managed to get a home page set up, with loads of text and pictures, but I want to put some sounds on my page too. I can record sounds using my PC's sound card and they get saved in WAV format. As I understand it, this format will play fine for people using *Navigator* in Windows, but I was wondering about people with other types of machines? Will they be able to play WAV files too? I can't really test this out myself, because I only have access to a PC!

Timothy Burgess, Bridlington

ASound support in *Netscape Navigator* does differ across the platforms it runs on. For example, *Navigator 3* for both Windows and the Macintosh comes with a special audio plugin component called *LiveAudio*. This supports a number of sound formats: WAV, AIFF, AU and MIDI (the last being for music rather than sampled sounds). Thus people visiting your page using a Mac or Windows machine will be able to hear your WAV sounds.

People using the Unix versions of *Navigator* have a rougher time of it, mainly because *LiveAudio* isn't available for Unix. If the particular Unix *Navigator* has been set up with the right helper applications, though, users should be able to play WAV files. However, if you want to play it safe, you should perhaps include versions of your sounds in AU format, which is a sound format supported on computers from Sun Microsystems. You could also include AIFF

versions of your sounds, for Macintosh users with older Web browsers.

To create versions of your WAV files in other formats, such as AU, you'll probably find a sound conversion utility useful. There are many shareware programs around that will fit the bill. A good one to try is called *CoolEdit*, which is available from the following Web site: <http://www.syntrillium.com/>. *CoolEdit* is both a sample editor and a format converter, and will allow you to tweak your WAV sound files and save them as AU files.



CoolEdit is just the job if you need to fiddle with your sound files.

BREWING JAVA

QJava looks like it's becoming more and more prevalent on the Internet these days, and it seems a pretty interesting programming language. I've had some experience programming C on the Commodore Amiga, and I'm wondering whether Java would be a good language to learn on my PC. Do you think this is a good idea, and can you tell me how can I find out more about Java?

Michael Fairwater, Winchester

AFirst, some information for the unenlightened. Java is a programming language developed in 1995 by Sun Microsystems. The key things about Java are as follows. Firstly, Java programs will run on any type of computer (for example Windows PCs, Macintoshes, and Unix machines), so you don't need to write several different versions of your software for each platform. Secondly, Java programs called 'applets' can be downloaded from World Wide Web sites on to your computer and then run from within your Web browser.

What does this give you? Well, so far it gives you Web pages full of bouncing animations and pop-up menus, but the potential applications for Java stretch far beyond these primitive examples. Corel, for example, is currently developing an office suite in Java (check out <http://officeforjava.corel.com> for more details). Currently, Java support can be found in *Netscape Navigator* (version 2.0 and later) and Microsoft's *Internet Explorer* (version 3.0 and later) for Windows 95 and Windows NT. Both of these browsers should also be out in a Java-enabled Windows 3.x version by the time you read this.

Is Java a good language to learn on PCs? Well, yes and no. If you're sure you want to learn Java, then the PC is as good a platform as any to do it on. If you're just interested in programming PCs, then you may be better off with C or C++, especially if you already know C.

On the software side of things, you have a number of choices but you'll have to be running

READER'S TIP

I'm sure that a large number of Windows 95 users will find this tip particularly useful. Many users complain that there is no utility for making a satisfactory backup disk to store configuration and system files.

This is not so. Carry out the following:

1. Insert the Windows 95 CD-ROM.
2. Click on 'Browse This CD' and go to the folder OTHER/MISC/ERU.
3. Copy the ERU folder to a blank, formatted floppy disk.
4. Once copied, open the ERU folder on the disk and double click on ERU.EXE.
5. Leave the disk in the drive, and follow the instructions.

6. You now have an emergency recovery disk that can restore all your system files automatically on reboot. If at any time you change your system files you can update the recovery disk by running the ERU utility on the disk again.

Tony Sheridan, Boroughbridge

KEYS ARE QUICKER

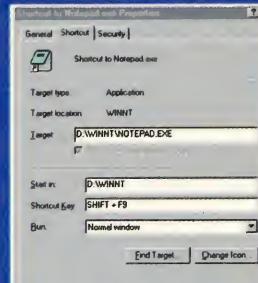
The mouse has proved to be one of the most revolutionary pieces of computer hardware in terms of the effect it has had upon the way we interact with computers. Windows 95 represents one of the latest evolutionary steps towards user interface heaven. However, when it comes down to getting things done, it is often a lot quicker to make use of the vast array of keyboard shortcuts built into Windows 95 and its applications. If you can keep your hands on the keyboard, instead of constantly switching between the keyboard and the mouse, you'll find that you can get things done with greatly improved efficiency. Here are just a few of the most useful Windows 95 shortcuts.

The TaskBar at the bottom of your screen lets you switch between the programs currently running. A quicker way to switch is to hold down the [Alt] key and press [Tab]. A box

appears in the middle of the screen, and as you press the [Tab] key again you will cycle through all the currently open programs and windows. When you let go of [Alt], you'll switch to the one you chose.

When the content of a folder is modified, the changes aren't always reflected immediately in what's shown on the screen. Pressing F5 will refresh the contents of a window so that it gives an up-to-date view of exactly what's in the directory.

When you want to rename a file, it's easier just to press [F2] and enter the new name, rather than fooling around with the mouse. You can find many more of these keyboard shortcuts in your Windows 95 manual, or in the on-line help, so it's well worth spending



Make your own shortcut keys using the Properties dialog box of a Windows 95 shortcut.

some time learning them. You can additionally make up your own shortcut keys, which can be associated with a shortcut to an application. So, for example, create a shortcut to the Notepad program by dragging the Notepad icon from your Windows directory onto your desktop. Then right-click the newly created shortcut and select Properties. Click the Shortcut tab, and click in the Shortcut Key box. Then press the key or key combination

you want (such as [Shift] and [F9]). Check that the right key combination has been displayed in the box, and then click OK. From now on, whenever you press [Shift] and [F9], Notepad will appear.

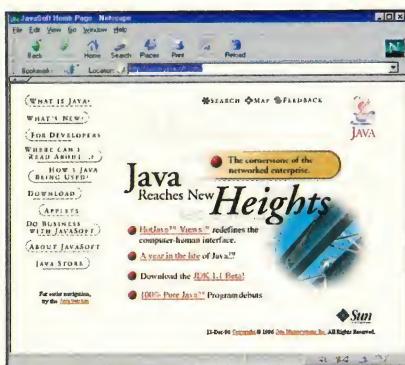
READER'S TIP

Here's a neat feature that you may not know about Netscape Navigator. The bookmarks facility lets you save useful links that you have visited and go back to them later by selecting them from the Bookmarks menu. However, you can also open the file where your bookmarks are kept and look at it in the Netscape window. This is because the file, called BOOKMARK.HTM is, as you may have now guessed, a normal HTML file. You can find it in your Netscape folder, and then open it like any other web page. The bookmarks will appear in the browser window formatted nicely with the same hierarchy as shown in the Bookmarks menu itself.

Simon Trent,
Barnsley

Windows 95 or NT. Firstly, you can download Sun's Java Development Kit for Windows, which is free but pretty basic. Go to <http://www.javasoft.com/> to download the JDK and to get all the latest information about Java.

Alternatively, you could buy a commercial Java development product. Currently available Windows 95 products include are Symantec Café (<http://www.symantec.com/cafe/>) and Microsoft Visual J++ (<http://www.microsoft.com/visualj/>). These should both be available from software retailers in the UK. On a final note, you'll also find an on-line Java tutorial at JavaSoft's Web site, and if you walk into any bookshop with a computer section these days you will doubtless find a vast range of books.



To get all the latest information about Java, visit JavaSoft's Web site at <http://www.javasoft.com/>.

NEIGHBOURHOOD WATCH

I use Windows 95's Dial-up Networking to connect to the Internet, which works fine in itself. What annoys me, though, is that the Network Neighborhood icon, as well as being incorrectly spelt, never seems to have anything in when I double-click it. Is it meant to have anything in it? Is there some way to get rid of it? I tried dropping it into my recycle bin, but it does not want to stay there (and who can blame it?).
Josh Johnson, Birmingham

If your PC has a permanent network connection (such as Ethernet) the Network Neighborhood window will give you a list of

other machines on your local network. However, if you connect using a Dial-Up Networking connection, the Network Neighborhood window doesn't do anything (as you've discovered).

It doesn't do any harm leaving it there, but if you're desperate to claim back some desktop real estate here's how to remove it. Firstly, if you happen to have *TweakUI*, one of Microsoft's *PowerToys*, you can use the Desktop section to remove the icon. To download *PowerToys*, go to Microsoft's home page at <http://www.microsoft.com/> and click on the 'Download Free Software' link. Then click on 'Windows 95 Shareware' and finally 'PowerToys'.

If you don't have *TweakUI*, you'll have to dust off your Windows 95 Policy Editor. You can find this on your Windows 95 CD-ROM, in the directory \ADMIN\APPTOOLS\POLEDIT. Double-click POLEDIT to start the Policy Editor. If you are asked to open a template file, select the one called ADMIN.ADM. Once the Policy Editor has started, choose Open Registry from the File menu. Next, double-click the Local User icon, and then open 'Local_User', then 'Shell' and then 'Restrictions'. You'll see a check box labelled Hide Network Neighborhood. Select



The Windows 95 Policy Editor will let you banish the Network Neighborhood icon from your desktop.

this, and choose Save from the File menu. Exit the Policy Editor, and when you restart Windows you'll find that the Network Neighborhood icon is no more.

HIDDEN FILES IN DOS

I know how to make hidden files appear in Windows (i.e. files which are marked as 'hidden' or 'system'), but is there any way to get at these from the MS-DOS prompt? The DIR command doesn't seem to be able to see them. Steve Highness, London

At your hidden files from MS-DOS, but it requires a bit of fiddling. Firstly, there are four different attributes that files can have. These are: 'hidden', which makes files invisible, 'system' which marks files as being part of the operating system and also makes them invisible, 'read only', which prevents you from changing files, and 'archive', which is used by backup software but has no visible effect. In Windows 3.x's File Manager, the 'By File Type...' option in the View menu lets you reveal hidden or system files. In Windows 95, the same thing can be achieved using Options command in the View menu.

To get the MS-DOS DIR command to show hidden files, you need to give it an extra option. If you add /A to the DIR command, all files, including hidden and system files, will be displayed. You can also restrict the display based on the attributes. Use the letters H, S, R or A immediately after the /A to display only the files with the chosen attribute. So for example, DIR /AH will only show files which are hidden. Placing a minus sign before the letter makes DIR show all files which do not have that attribute set, so DIR /A-R will display all writeable files.

The appropriately-

ADDING MEMORY

Tip of the Month
Increasing the amount of memory in your PC is one of the easiest and most popular upgrades, and the benefits are usually immediately

apparent. Most PC manufacturers will sell you a memory upgrade for your particular PC, but you can often save a considerable amount by buying a standard memory upgrade elsewhere. The trick is to know exactly what type of memory module you need to buy. Here are some pointers as to what you should look out for.

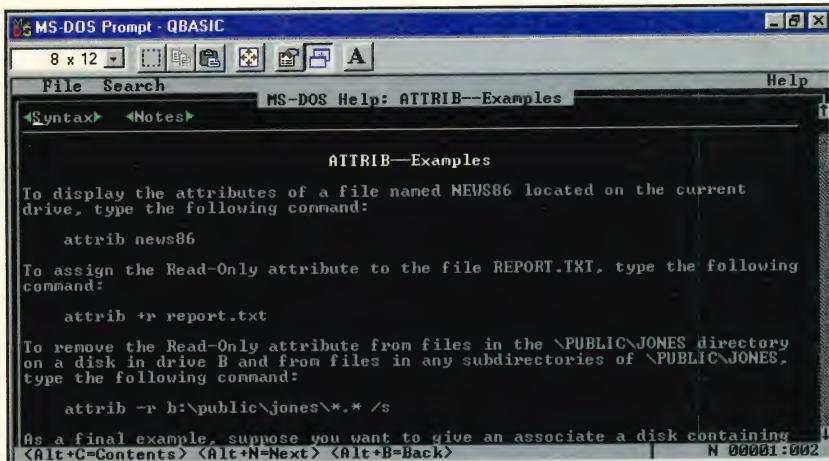
The first port of call should be the manual that came with your PC. This should give you a detailed specification of the kind of memory your PC needs. If not, your manufacturer should be able to tell you. All PCs these days take additional memory in the form of SIMMs (Single Inline Memory Modules). You will have a number of SIMM slots on your PC's motherboard, some of which will probably be already in use. Check how many free slots you have.

SIMMs come in a number of shapes and sizes, so you have to find out what type your PC needs. Firstly, SIMMs have different numbers of pins:



If you know exactly what kind of memory upgrade your PC needs, you can help yourself find a bargain.

30- and 72-pin versions are the most common (modern PCs generally take 72-pin SIMMs). Next you should check the speed of the SIMMs. This is measured in nanoseconds (commonly 70ns). SIMMs come in a number of memory sizes, such as 4Mb, 8Mb and 16Mb. Different models of PC accept different sizes of SIMMs, and sometimes only in certain combinations. Your manual should tell you which combinations of SIMMs your machine will accept. Finally, does your PC expect SIMMs that use parity bits for error detection? The width of SIMM, measured in bits, can tell you this if it is not explicitly stated. 32-bit SIMMs do not have parity bits, while 36-bit SIMMs do. Once you have all these details sorted out, you'll be able to shop around for the best deal.



```

MS-DOS Prompt - QBASIC
8 x 12 File Search Help
Syntax Notes MS-DOS Help: ATTRIB--Examples
ATTRIB--Examples
To display the attributes of a file named NEWS86 located on the current
drive, type the following command:
attrib news86
To assign the Read-Only attribute to the file REPORT.TXT, type the following
command:
attrib +r report.txt
To remove the Read-Only attribute from files in the \PUBLIC\JONES directory
on a disk in drive B and from files in any subdirectories of \PUBLIC\JONES,
type the following command:
attrib -r b:\public\jones\*.* /s
As a final example, suppose you want to give an associate a disk containing
<Alt+C=Contents> <Alt+N=Next> <Alt+B=Back> N 00001:002

```

The ATTRIB command is used for changing the attributes of files from within MS-DOS.

named ATTRIB command is used for changing files' attributes. Used on its own, without any additional command line parameters, ATTRIB will display the attributes of all files in the current directory. You can set and unset attributes on files using the same single letter abbreviations used by the DIR command: H, S, R and A. To set an attribute, prefix the letter with a plus sign, to unset an attribute use a minus sign. For example, to make a file hidden, use ATTRIB +H followed by the filename. To make a read only file writeable, use ATTRIB -R.

MOTHERBOARD SPEED OPTIONS

Q In November 1995 I bought a Pentium 75 system. Since then I have decided to upgrade the original 75MHz processor as I require more power. However I am slightly confused with the PCI541T motherboard documentation which states that it is capable of using the following processors: 75, 90, 100, 120, 133, 150, 166, 180, 200 as well as the Intel P6-based OverDrive. Elsewhere in the manual, however, it states that the bus speed can be 50, 60 or 66MHz, meaning that the CPU frequency can be 75, 90, 100, 120 or 133. The startup message produced by the BIOS also only mentions the slower speeds: "Pentium-Intel-WBa-75/90/100/120/133-15-ZG". Does this mean that the motherboard is only capable of using CPUs up to 133MHz and the 180MHz or 200MHz Pentium Pro chips I am thinking of buying?

LB Clarke, Merthyr Tydfil

A Your manual does seem to be a bit confusing. Firstly, it is likely that when your manual was written, the fastest Pentium available ran at 133MHz. There is no version of the Pentium that runs at 180MHz, so it looks as though the writers were trying to predict the future somewhat. The 150MHz Pentium uses a bus speed of 60MHz, and the 166MHz and 200MHz versions use a bus speed of 66MHz. Thus your motherboard could, in theory, support the faster Pentium processors. So, if you can successfully change your motherboard settings then you should be able to plug in a faster processor. Having said this, you should really check with your manufacturer to be sure. You may need to upgrade your BIOS, especially if it only appears to know about Pentiums running at up to 133MHz. Incidentally, the official Intel upgrade path from a 75MHz Pentium is to a

125MHz Pentium OverDrive processor, though this is probably for people with motherboards that cannot support faster real Pentiums.

However, you seem to be a bit confused about the differences between the Pentium and the Pentium Pro processors. The Pentium Pro is a significantly different processor to the Pentium, and you will not be able to plug a Pentium Pro processor into a Pentium motherboard (for a start, the Pentium Pro is a much bigger chip than the Pentium, and has many more pins). Intel is not planning any OverDrive processors that will take a Pentium to a Pentium Pro, so the 'P6 OverDrive' mentioned in your motherboard manual will never be available. The only processor your motherboard will accept is the Pentium.

HORRIBLE MESSAGES

Q My computer has started giving me horrid messages: 'The program has performed an illegal operation and will be shut down'. This happens when I load Microsoft Works 4.0 for Windows 95. I use Works 4.0 all the time for letters and school work. Also, when I want to record my voice or listen to a previous recording, I get a message: 'Sound Recorder cannot record or play back because a sound device is not installed. To install a sound device, click 'Add New Hardware' in Control Panel'. But there was a sound device already installed when I bought my computer.

Daniel Banks, Camberley

A Microsoft's Works Web site has a section devoted to sorting out problems. If you know someone with Internet access, try looking at the following page: <http://www.microsoft.com/WorksSupport/content/faq/works95/>. There are a number of suggestions about what might be causing this problem. For instance, if you have a Logitech mouse, it is suggested that you disable the 'SmartMove' option. There is also a new version of Works available, version 4.0a. This fixes a number of problems, and it might be worth you upgrading. However, before doing this it is well worth uninstalling Works and then reinstalling it. The problem you are experiencing may be due to some of the Works files being accidentally corrupted or deleted. Reinstallation may cure the problem. If Works came included with your machine, your PC manufacturer may be able to offer some help too.

As far as your sound card goes, it seems that although you have a card physically



You can change the characters the keys on your keyboard produce in MS-DOS by sending commands to the ANSI.SYS driver. Make sure that you load the ANSI.SYS driver in your CONFIG.SYS file at boot time. You'll need a line like this:

DEVICE=C:\DOS\ANSI.SYS

You can now send commands called ANSI escape sequences to the ANSI driver in order to reconfigure various aspects of your system, such as the screen display and the keyboard layout.

An ANSI escape sequence always begins with an escape character (ASCII value 27), followed by a left square bracket ([). Following this are the parameters for the command, and finally a single letter indicating which command to execute. The parameters are separated by semicolons, and there should be no spaces in the escape sequence, because the space character will indicate the end of the command.

There are a number of ways to execute an ANSI escape sequence. One of the easiest is to write a small batch file which uses the ECHO command to print the escape sequence. Printing the escape sequence will execute it. Using the MS-DOS editor, you can enter the escape character by pressing [Control]-[P] and then pressing [Esc].

To swap two keys around, use the 'p' command. There are two parameters for the command. The first (immediately after the [) is the ASCII code of the key you want to change, the second (immediately after the :) is the ASCII code you want the key to produce. You can specify the ASCII either as a decimal number or as the character itself, surrounded by double quote marks. For example, to make the 3 key produce the number 4, put the following in a .BAT file:

echo ESC["3";"4"p]

(where it says ESC you should enter the escape character).

Then run the batch file to make the escape sequence take effect. To put things back to normal, use the sequence:

echo ["3";"3"p] (This makes the 3 key produce the number 3 again.)

Note that the changes you make may be overridden by some applications, and they won't have any affect in Windows, which has its own keyboard drivers.



```

File Edit Search Options SWAP.BAT
run SWAP.BAT
run This batch file will swap the < and the > keys
run and the . and the < keys
run Enter the escape character in the MS-DOS editor by
run pressing CONTROL-P and then the ESC key. It appears
run on screen as a left-facing arrow
echo ["3";"4"p]
echo ["4";"3"p]
echo ["1";"2"p]
echo ["2";"1"p]

```

You can change the layout of your MS-DOS keyboard using ANSI escape sequences.

READER'S TIP

It's easy to make a deep directory tree in Windows 95, with many folders within folders. This causes a bit of a problem when it comes to navigating around on the desktop, because the screen quickly gets filled with a mess of windows as you move deeper into nested folders. Well, one way to stop this happening is to change the Options in the View menu so that you only get a single window whose contents change for each sub-folder. This may not be what you want all the time, though. A neat trick is to hold down the [Ctrl] key as you double-click a folder to open it. This will replace the current window's contents with those of the new folder. This will help stop windows multiplying all over the desktop.

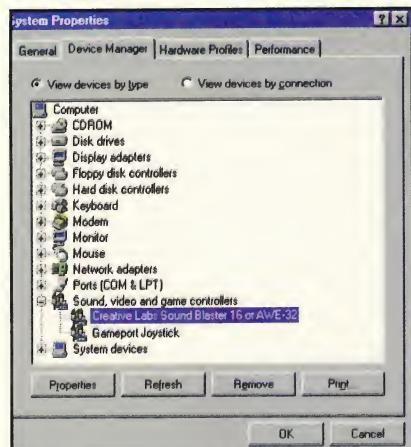
Susan Banks, Swansea

READER'S TIP

If you haven't upgraded to Microsoft Internet Explorer 3.0 yet, here's a good reason why you should. The normal Windows 95 setup comes with a video player called "Media Player", but this can only play a limited number of movie formats. When you install Internet Explorer 3.0, however, a new system called ActiveMovie is installed as a bonus. The ActiveMovie player supports more formats, including MPEG, and gives you much better video playback performance. The installation automatically makes ActiveMovie the default player for playing video files, so all you have to do is double-click on one and away it goes.

Ted Barnes, Worcester

READER'S TIP
Did you know that Windows 95 will always alter any floppy disk that you put into your PC, even if you don't write anything to it yourself? It writes a special ID code on the floppy so that it can track it as you insert and eject it, and so can thus warn you if you have the wrong disk in the floppy drive. However, Windows can only write this ID onto write-enabled floppy disks, so if you want to be sure that your floppy disks are not being written to by Windows, open the write-protect tab (so that there is a hole) before putting them into your PC.
 Betty Smith, Harrington



If your soundcard can't be found in the Device Manager list in the System Control Panel you'll have to install it.

installed inside your PC, Windows 95 hasn't been told about it. If your sound card used to work, then it is possible that the sound card driver software needs reinstalling. Open the System section of the Control Panel, and click on the Device Manager tab. See if there is a sound card in the sound section. If there isn't, then you need to install the sound card in Windows, and you can do this using the Add New Hardware Control Panel. If there is a sound card shown in the Device Manager listing, try removing it and then adding it again, using the Add New Hardware Control Panel. If Add New Hardware can't detect your card itself, you will have to select it from a list. You may have been given a driver software disk with your PC. Again, you should check with your manufacturer if you can't get the sound working.

MISSING CLIPART

QI have a Pentium P60 with 16Mb RAM and the problem is with MS Publisher 2.0, pre-installed with the machine. Ever since I upgraded to Windows 95 I've been unable to use the

Clip Art Gallery. Whatever application I use I get the same message if I try to insert an image: "Unable to find a filter to match C:\MSPUB\CLIPART\filename.CGM". Can you help?

John Ridley, Hildenborough

AThe cause of this problem sounds like it could be something to do with the configuration settings of Publisher. It's possible that when you upgraded your machine to Windows 95, some of the settings for Publisher were removed or corrupted. If you have the original floppy disks or CD that Publisher came on, it is worth trying to uninstall Publisher and then reinstall it. This may have the effect of resetting all the configuration information for Publisher, so that it can find its filters again. Another option is to upgrade to Publisher 95, which is designed to work with Windows 95. This will also give you the added benefit of the new features included in the latest version.

LAPTOP QUERIES

QI have two queries regarding settings on my Toshiba Tecra 730CDT laptop. Firstly, what specific command string settings do I need to use to best configure the machine's internal modem? The package for Internet connection that is provided by Pipex Dial allows optional settings other than 'Generic' or 'Modem names'. Settings for Reset, Init, Escape and Hangup can all be individually defined. Secondly, how do I display DOS games full-screen and not just as a section in the middle – i.e. to get the screen to fill when using 640x480 Mode DOS games (in DOS).

Simon Hancox, via the Internet

AToshiba's recommended initialisation string for the internal modem is as follows: "&F &C1 &D2 V1 /V1". Depending on what the Pipex Dial software requires, you may need to prefix this with "AT", but try it without first. The other strings can probably be left at their default settings. Reset should be ATZ, escape should

be +++ (assuming this is for interrupting the modem while it is connected) and hangup should be ATH. If you find that this doesn't help, you're probably better off using the 'generic modem' setting. If you're using Windows 95, though, you should consider using the built-in Dial-Up Networking support. You'll have to find out from Pipex Dial about what login script is required, though.

Your Tecra 730CDT has a 12.1-inch TFT LCD screen with a resolution of 1024x768. Because of the way LCD screens work, each pixel on the LCD screen is mapped to a single pixel in your display. In 1024x768 mode, all the LCD pixels are mapped to a display pixel. When you move the resolution of your display down to 640x480, you end up using only the middle 640x480 LCD pixels. This is because the LCD pixels are a fixed size, unlike the pixels on a CRT monitor. To make the image fill more of the screen, it is necessary to use several LCD pixels to display a single display pixel. Unfortunately this cannot be done with 640x480, because 640 doesn't go into 1024, and 480 doesn't go into 768. The Tecra does have a mode which can stretch a DOS text screen to fill the whole LCD screen, and you can set this using one of the Toshiba setup utilities in Windows.

This stretching trick results in an uneven looking display, though, because the characters cannot be scaled perfectly. Also, there is no facility for doing the same with graphics screen modes like those used by games. Unfortunately you'll have to put up with having a black border around your displays.



LCD laptop screens have fixed pixel sizes. At lower resolutions images won't fill the screen.

modem's manual, and make changes to the modem's configuration as required.

There is usually a modem command which will display all the modem's current internal settings. For example, US Robotics modems will respond to the command 'ATI4' with a display of the current settings.

Go through each of the settings, and see if it set to what you want. For example, you should check that the modem is set to do hardware flow control, and then ensure that it is set to talk to your PC at a fixed serial port speed (usually the speed at which the PC first talks to the modem). Check that your modem will use the best error correction and compression options available, and that it will always connect to the remote modem at the highest possible speed.

Having set up all the options, store them in the modem's non-volatile memory. Again, your manual will explain how to do this. Now all your communications software need only send the modem an 'ATZ' (reset) command, rather than a convoluted initialisation string.

MODEM SETTINGS



Adding a modem to your PC is easier than ever with Windows 95, assuming that it knows about your particular model of modem. Older applications, such as those for MS-DOS and those which aren't Windows 95-savvy,

usually need more attention when you configure them. Modems generally have a number of internal settings that govern how they behave. If your application happens to know what commands to send to the modem to correctly configure it, then all well and good. However, it is often preferable to store



Configuring your modem by hand means that it will always have the correct settings.

the correct default settings in the modem itself, so that you are not relying on your applications to 'do the right thing' and initialise your modem correctly.

Configuring your modem by hand requires you to be able to communicate with it directly. You can do this using the Terminal program that's supplied with Windows 3.x, or with HyperTerminal, which comes with Windows 95. All modem commands begin with the two letters 'AT'. If you type AT and press [Return], your modem should respond with 'OK'.

This indicates that the serial connection between your PC and your modem is working properly. Next you need to check your

CD REVIEW

PRIVATEER 2 THE DARKENING



The world exclusive demo of this superb cinematic game.

Yeah, yeah, so we've told you all about the clever way *The Darkening* blends quality movie footage with the action, and how that action takes the best elements of the classic *Elite* then polishes them until you can see your face. But it's possible you didn't believe us, so we've worked to bring you this exclusive playable demo. You will believe.

After watching the intro, which snappily explains how hero Lev Arris (that's you) got involved in an accident that led to him become the universe's only amnesiac space trader, you'll find yourself at the spaceport on the planet Hermes. In the full game you can go into the booth on the right, to trade goods, check various records, or upgrade your ship. However, this demo restricts you to visiting The Sinner's Inn (down the corridor), or leaving the planet altogether. Try the former first, it'll give you a chance to see John Hurt play Joe The Bartender. When you're ready for some action, go back to the spaceport and exit Hermes.

After the launch sequence, you'll find yourself just out of orbit, whereupon you'll receive



The demo begins on the industrialised world of Hermes. Here's what it looks

some email. This will inform you of a vice-president's son who's been stranded in deep space. Click 'Yes' if you want to attempt to rescue him, otherwise select 'No' to focus on blasting at any pirates you don't like the look of. Or police ships if you really want to live dangerously. Either way you'll need to get the hang of jumping between waypoints. Go to the nav screen ([Alt]+N) and click on your desired destination, or press [F] followed by a reference number (then [Return]) to find a particular waypoint – the location of a vice-president's son, for instance.

Now go back to your cockpit display and press [J] to jump to the next waypoint on the way to your newly set destination. Note, however, the bar below your energy display near the top of the screen. If it's red there are enemies near, who must be destroyed before you can make the jump. If it's orange, this means your craft is scanning for other ships, so wait until it turns green before trying to blast off.

And that's about it. Except for the small matter of fighting against enemy spacecraft, of course. For which you'll need to use your

targeting systems ([T] to activate and [W] to target the next craft), and your lasers, missiles and mines. Use the on-screen HUD pointer and 3D scanner to locate the bad guys. And make sure you keep 'em guessing by constantly changing direction and speed when in dogfights, using the [X] key to match your speed to the enemy only when you've got them in your sights.

Finally, note that there's a countdown on this special demo of *The Darkening*. Whether or not you've managed to complete the mission, the game will end when that counter hits zero. So get moving. (MR)



Take care not to shoot at friendly craft (green on your radar). Unless you fancy taking on the might of the military police, that is.

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From: Electronic Arts • 01628 423666 • Price: £44.99 • Minimum system: Pentium 90, 8Mb RAM, 13Mb hard disk space, double speed CD drive, mouse, joystick



Getting started

Winter is here. The roads are covered in ice. Windows are coated in condensation and the ice floes are sweeping across the Arctic. To match the season, our CD REVIEW interface also features some wintry ice, but you can be sure it's not frigid. In fact, we think it's hot.

Featuring two separate menus for Windows and DOS, it aims to be all things to all PC users. Before you run our menu, it's a good idea to quit from any other programs that are already running. Here's how to get the menu you want up and running:

Windows users

If you're using Windows 95 then pop the CD in the drive, wait a few seconds and the Windows 95 menu autoruns. This feature is



It's freezing! Thank the heavens for our Winter menu.

not supported on all machines, so if nothing happens click on Start, then select Run. Use the Browse option to locate the file REVIEW.EXE, and you're into the action.

If you're running Windows 3.1, click on File, then Run, then use the browse option to select the file REVIEW.EXE. Double click the file name to start the menu.

Our Windows menu is split into five sections, the contents of which are described in more detail on the following pages. To get to a section, click on its icon on the main screen and use the arrow keys to get to demos.

You'll notice that we've also included the Troubleshooters guide on the front end. Should help you sort any problems out.

DOS Menu

Even in these enlightened times, many games require DOS to run, so you'll find most of this month's in our DOS menu. Type PCR or GO at the DOS prompt of your CD-ROM drive. Once the DOS menu is up and running use the arrow icons to scroll through our demo selection.

ECSTATIC 2

The original *Ecstatica* was famous for using revolutionary ellipsoid 3D graphics as well as melding arcade action and adventure in the most convincing manner that had yet been seen. Since *Ecstatica*, titles such as Gremlin's *Realms of the Haunting* have done a better job in first person perspective, but no-one's really improved on Pysgnosis' fixed camera take.

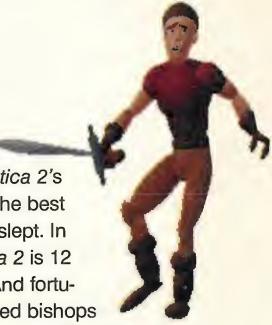
Nor, at a glance, has its developers Run our *Ecstatica 2* demo and you'll find the familiar hero, filmed from above. But you soon realise that

Ecstatica 2 is an altogether classier affair. The Michelin man hero of the original has been beefed up to become a fully-fledged SVGA 3D character. *Ecstatica 2*'s camera angles are wonderfully selected, making for an even darker and more claustrophobic atmosphere. It sounds creepier.

The main problem with *Ecstatica* was that it was all over far too quickly. Which makes the sequel almost an instant success. It's promises to



Smash in goblins and explore the first few rooms of this terrifying castle in our pretty *Ecstatica 2* demo.



be much bigger too. Even walking from one side of *Ecstatica 2*'s world to the other would take the best part of a week, assuming you slept. In fact, the full version of *Ecstatica 2* is 12 times the size of the original. And fortunately, there are less decapitated bishops in the sequel, but the air still stinks of ill-doing.

The plot's simple. You're a prince, searching for a princess (why don't they just chain these things together at birth?) Unfortunately, true romance is never easy. Even on this demo, there are nasty green chaps blocking your path, who you can quickly dispatch with your sword. Press [Ctrl] and cursor up to stab, cursor left to slash and back to pull off a reverse switch ninja move. To open standard doors, smash them with your sword – there's nothing like a strong entrance. Look out for secret doors. Also kick open the chests to look for potions. (OB)

From: Psygnosis 0151 282 3000 • Minimum system: Pentium, 8Mb RAM

SCORCHER



Scorcher has some neat graphical touches, including a tree-lined horizon.



Non-competitive sports aren't very popular at Scavenger. It says 'RACE' and that's what you've got to do.



In the first person perspective, you'd never guess at your hideous hamster-like existence.

Hamsters have a pretty good life. If they're not stuffing their little cheeks full of sunflower seeds, they're rushing across the lounge in cruel but effortlessly enjoyable plastic balls. And, for all its cyberpunk overtones and elevated race courses, *Scorcher* is really a hamster racing simulator.

The latest offering from Scavenger, *Scorcher* is racing future-style. Load up our exciting two track demo and you'll soon be rolling like you were born on wheels. You're the chap encased in the energy ball. By moving forward you'll gain momentum and set the ball in motion. The left and right cursors move you in the direction indicated while [Alt] provides a Boost and [Ctrl] causes you to jump. To change views, hit [Shift].

You're up against four fellow hamster wannabees as well as the clock. In true arcade style, *Scorcher* has extend time points which you'll need to hit to keep rolling. There are also hazards like road blocks to negotiate, and speed-up thrusters that you'll need to roll over. Most disconcertingly, fall off the track and you drop away to the bottom of the world. But conveniently, you're placed back on the road in a couple of seconds.

The full game features six tracks backed up by thumping techno music. Extra features including Championship, Time Attack and Practice modes. Future plans include two foot high water bottles you can lick when you're thirsty, bags of sawdust and a man-sized toilet roll. (OB)

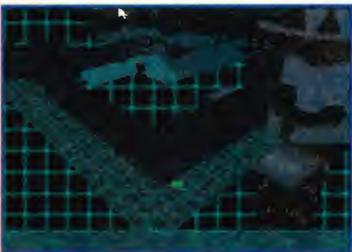
From: GTI 0171 258 3791 • Minimum system: Pentium, 8Mb RAM

TERMINATOR: SKYNET

Sometimes, you wonder if it's really worth waiting for the future. It always goes wrong in films and PC games.

Even in the future-worshipping *SimCity 2000*, you eventually destroy your painstaking creations with great vistas of ugly arcologies. It's no wonder the world continues to bury its head in a continual 60s revival.

The first thing you need to do when you start our fully-operational *SkyNET* demo is to abandon retro technology. For some reason, you're thrown into battle wielding a crowbar. Hit the number keys to swap it for something more deadly. You've only got limited ammunition but you'll find more scattered about the landscape. The Uzi is great for spraying fire at multiple targets. For toe-to-toe action, plump for the shotgun. Your grenades are your best bet against heavily armoured foes. Check out the controls on the CD REVIEW



It's always handy to fall-back on the automap when your trail of bread crumbs fails you.



You can actually climb inside vehicles in *Terminator: Skynet* and drive around. It sure beats taking the tube.



Being made of metal certainly cuts down on shaving and sunscreen creams, but look at those rusty eyes.

From: Virgin 0171 368 2255 • Minimum system: Pentium, 8MB RAM

inlay card because they're not all quite the same as those used in *Doom* or *Quake*.

While *SkyNET* isn't quite as immersive *Quake*, it's got some pretty neat controls. You can crouch and even pogo. Also it has vehicles you can leap into and drive about in. There are two fully-playable levels for you to blast through, plus another multi-player one.

The strange thing about the robotic fellas in *Terminator: Skynet* is they're remarkably easy to kill. Unlike Arnie, they're felled by a few rounds from your assault rifle. You just can't get the Austrian cyborgs these days. The complete *Terminator: Skynet* boasts an impressive arsenal of weapons, including rocket launchers, Molotov cocktails and that old favourite, the pipe bomb. It's also reviewed on page 41, so head there before firing another shot. (OB)

THE QUAKE COLLECTION

Here we are with another top selection of weapons, levels and bots for you to scream hysterically in front of. If you've only played *Quake* single player, bots are a blast. The Darkbot on our disc is particularly vicious. Loners take heart, when you do get online you'll find most players aren't up to his standard. (Unless you stumble across the PC REVIEWS team.) Interesting fact – the chap who designed the Reaperbot (which we supplied a few months ago) has gone on to write the AI for *Unreal*. Don't miss our big *Quake* contenders feature on page 16.

You'll find new levels too, with some superb single-player efforts. Battle is a small one, but it offers something different. Set inside your own house, you've woken to find it full of hideous monsters. Wipe them out before breakfast. Church is another massive single-player level. (With such great single-player levels for free, how will level packs ever sell?) Meanwhile, deathmatchers will find ac_sneak an exciting level. It's got 12 start positions and features all the weapons in the game.

Remember, these patches can only be used with the registered version of the game, not the shareware version. You'll need to have some familiarity with copying files, creating directories and other Windows operations in order to use them.

Before you can use a patch, you'll need to unzip it with Winzip. You'll find this in the Essentials collection on the coverdisc.

All the patches and levels include text files, which you should read before attempting to use them. All the patches work in slightly different ways, but we've tried to include only the simplest ones.

Generally, to use a 'prog' patch – that give you new weapons and opponents – you first create a new directory in the *Quake* folder. Then, copy the patch into the directory and unzip it with Winzip. Finally, launch the game by typing *quake -game xxx*, where *xxx* is the name of the new directory.

To use a new level, create a folder called *Maps* in the *Id* directory, which is in the *Quake* folder. Unzip the new level into *Maps* and then run *Quake*. To access the new level, go to the *Quake* console and type *Map xxx*, where *xxx* is the name of the new level.

Finally, we remind you yet again to look at the help files. Remember, these are not commercial products!

From: Various authors Minimum system: 486, 8Mb RAM, full version of *Quake*

A-10 CUBA!

The A-10 Warthog has been the backbone of a couple of great games recently. Sierra's *Silent Thunder* was frighteningly beautiful, while Activision's latest offering, *A-10 Cuba!* is based around a terrific flying engine. To prove the point, we've stuck it on CD REVIEW this month.

This one level demo should give you a flavour of what *A-10* can do for you. Satellite reconnaissance has confirmed that Mig-29s are stationed at the International Airport near Guantanamo. It's vital that they're destroyed. Strategic command has ordered you to fly from your base at NAS Guantanamo and take out the Migs.

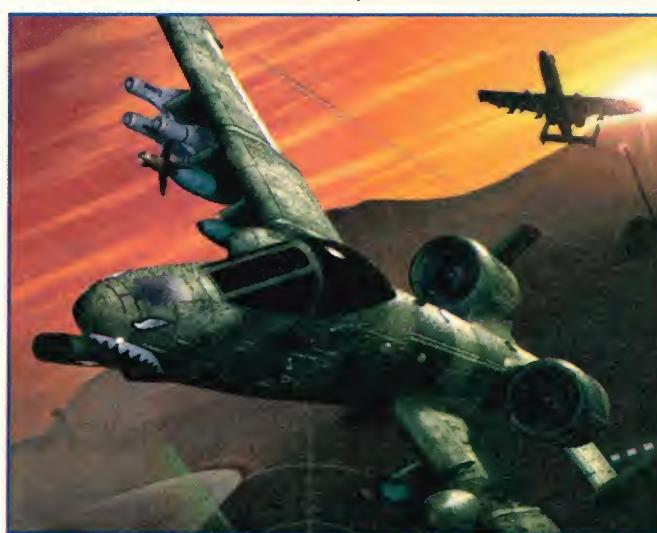
First, you'll need to fly 15 miles north. Your objective is to destroy the runway and its Migs before they can scramble. An A-10 against a flying Mig is no contest (unless you're prepared to fly underneath it and eject up into the Migs under-

carriage). Fly low and let loose with your bombs.

Once you've taken out the runway, you're to head for the munitions dump ten miles further north. Migs aren't the problem here. Heavy fortification by surface-to-air missiles and AAA sites are the threat this time.

As we've already alluded to, *A-10 Cuba!* includes an ejector seat feature which makes the demo timeless. Eject in the hangar to hear your man scream. Eject from 50 feet, just to raise your hopes.

Silliness aside, *A-10 Cuba!* is an incredibly intricate flight sim, so we've included the complete key controls inside the disc label. At first you'll fly the Warthog like a warthog but practise pays off. Activision's complete version of *A-10* has another 12 missions, plus training levels and Internet based multiplayer flights. Turn to page 55 to find out what our reviewer thought of it. (OB)



A-10 is an exhaustive, smooth-playing flight sim, that really gives the impression of life in an airbase.

From: Activision 01895 456700 • Minimum system: Win95, Pentium



EXCLUSIVE BEST OF BRITISH SHAREWARE

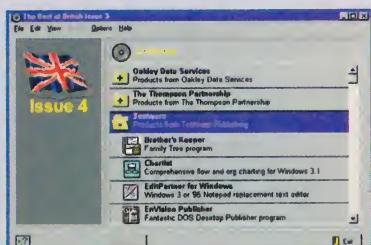
Welcome to the shareware collection you've always dreamed of. We're the first to bring you the entire fourth version of the *Best of British Shareware CD*. You'll find all the shareware you could possibly want here. There are entertainment programs, games, utilities to clean up your disc and fun toys to amuse the kids. All on one disc!

The *Best of British Shareware CD* comes with its own browser for installing its programs. In addition to that, it enables you to find out what a particular program does before you go ahead and install it. If you want to get straight to the browser, double click the SMARTCD.EXE file in the root directory and it will load up.

The *Best of British* browser makes it easy for you to navigate around the CD and find the programs that interest you. You can see descriptions, system requirements and screenshots of the programs, and in some cases try the programs out direct from the CD. When you have found what you're looking for a single button click will install the program straight onto your PC.

There is also context-sensitive online help section. Click on the small blue 'question mark' button in the bottom left corner of the Windows, and then click on something you want information about.

We have thoroughly tested this collection and there are problems with just six of them. You will find that the following programs won't install/run. *EasyBook*, *Quiz Master*, *TestMaker*, *ViaPrint*, *I'm Out*, and *Master Office*.



The *Best of British Shareware 4* menu is almost as easy to browse through as *CD REVIEW*.

From: The Thompson Partnership
01889 564601 • Minimum system:
Windows 3.1 or higher

MULTIMEDIA MUSÉE D'ORSAY

We've got the UK's first look at *Musée d'Orsay* this month. This beautiful QuickTime demo gives you a complete overview of BMG's stunning new art disc, which we've reviewed on page 73.

Many of the greatest names in art are on show at the *Musée d'Orsay* including Cézanne, van Gogh and Monet. The fabulous Renoir study in lighting effects, *Dancing at the Moulin de la Galette*, is one of the finest impressionist paintings hanging in its galleries – indeed one of the greatest hanging anywhere. Our demo focuses in on this work, with animated light patches explaining how the artist envisaged the scene. Swishing and swirling characters are brought out from the melange, to demon-

strate its revolutionary composition. It's a treat.

A look at the zoom properties of this veritable visual feast concentrates on Edouard Manet's *Le déjeuner sur l'herbe*. The semi-mythical meal is literally brought right up before your eyes. A CD-ROM can never replicate the sensation of seeing a great work in

the canvas. But it can bring out key areas of the painting to inexperienced eyes. Even this demo will teach you a little about perspective and impressionism and it's a mere snippet of the tapestry that is the complete disc.

We can't deny it, we love the *Musée d'Orsay*. Once you've watched our exclusive demo, you'll see why. You might even want to jump on EuroStar and head to Paris...



Women were desperate to remove their clothes when confronted by a 19th century Impressionist painter.

From: BMG Interactive 0171 973 0011 • Minimum system: 486, 8Mb RAM, SVGA, double-speed CD drive, Windows 3.1

THE WORKS

Mixman Spin control

Mixman lets you get on the decks and try your hand at DJing. It's got everything you need to play bits of discs and mix them with other tracks. You can add special effects to create the new sound of 97. Remember, being a DJ is like playing an instrument. The more you do it the better you'll get. Play *Mixman* through a big stereo with big speakers and crank it up!

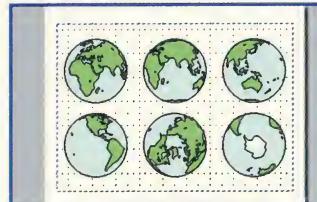


Don't forget – respect due to PC REVIEW if you make it as a DJ.

From: V2 Records 0181 9645445
Min system: 486/66, 8Mb, Win3.1 or 95

Windows Draw 3.0

This is not a demo. We're bringing you the full commercial program. *Windows Draw* is a vector based drawing application for Windows 3.1 or 95. You'll find the help files in the WORKS\WINDRAW\MANUAL directory. You'll need Adobe Acrobat to view them, which is in that directory. During installation you will be asked for a serial number. Just hit 'Skip' and continue.



See page 100 for our Windows Draw 3.0 guide.

From: Micrografx 0345 089372
Minimum System: 486, 4Mb RAM

A plug in trial

This trial from Almathera contains two plug-in filters for *Photoshop*. They'll also work with *Paint Shop Pro*, which is included in the Essentials section of this disc. When installing for *Photoshop* install the filters to your *Plug In* directory. When installing for *Paint Shop Pro* you must install them into the same directory that *Paint Shop Pro* is installed into.



Drop shadow can make text look like it's coming out of the page.

From: Almathera 0181 687 0040
Minimum system: 486, 4MB RAM

PICK 'N' MIX

As much fun as the sweeties section in Woolworths.

A really varied selection for this month's Pick 'n' Mix. *Golf Score Card*, for instance, is a program which allows you to enter every round of golf you've ever played. It can then perform an analysis on your results for you. You can enter ten rounds – after that you'll need to register.

We've also got the second part of the *Porsche Boxster WTZ* screen saver program we ran in December. To install it you must set your keyboard to UK ENGLISH. *M4 Life Saver* isn't a Welsh extra from *Baywatch*, but an artificial life screensaver based on the Game of Life, but with psychedelic colours.

Finally there's *Visual Basic 4*. This lets you create up to two forms, and save your work.

VISUAL BASIC 4

From: Microsoft ☎ 0345 002000
Minimum System: Windows 95,
8Mb RAM

M4 LIFE SAVER

From: M4
Contact: M4 Limited, Osborne House,
111 Bartholomew Road, London NW5
2BJ
Minimum System: 486/DX2, 4MB RAM

GOLF SCORE CARD

From: Mark Cunningham
email: 101641.2226@COMPUSERVE.
COM
Minimum System: Windows 3.1 or 95

PORSCHE BOXSTER 2

From: Global Beach ☎ 01189 342699
Minimum System: 486/DX2, 4MB RAM

Essential Selection

A whole stack of vital tools are filed under the PC Essentials section of our menu.

Direct X

Developed by Microsoft, *DirectX* increases the speed of graphics and sound processing under Windows 95.

Video

Run-time versions of two video players: *Quick Time* for Windows 2.03 and *Video for Windows 1*.

Graphics

Paint Shop Pro is our favourite graphics utility. You'll find both Windows 95 and Windows 3.1 versions on the disc.

Compression

With *Winzip*, you can free up hard disk space and also shift bytes on-line for less money.

Win32

A lot of Windows 3.1 programs require you to have Win 32 installed. Ta-dah! Register it if you keep it.

Troubleshooters guide to CD REVIEW

Having a problem?

If you're having a problem with a CD REVIEW demo we suggest you first read the corresponding entry in these disc pages. If you can see the files on your CD then the chances are that you don't have a faulty CD and may need to read through the Memory section below. If your CD-ROM drive refuses to run, or read the disc, then you should send your CD to the following address and a new, working version will be returned to you within 28 days: PCR65 CD Returns, Diskxpress, 7 Willow Court, Bourton Indus Park, Bourton-on-the-Water, Gloucestershire, GL54 2HQ.

Windows 95

Some DOS Games have problems running in Windows 95. We've included an option to run all the DOS games that we know work in Windows 95 from our menu, but we can't guarantee they will work on all systems. If you find you're having trouble running a DOS game in Windows 95 then try running it from our DOS Menu. First select Restart in DOS Mode from our ShutDown Menu, then when DOS has started type D:PCR, where D is the prompt of your CD Drive.

Install and run options

Make sure you select the default Installation path for all demos, otherwise when you click the Run button nothing will happen.

Memory

Configuring your PC with just the right amount of free memory can be a tricky as crossing the Alps single-handed, but don't worry, simply follow these easy tips and everything should be fine.

If you have trouble running a demo it might be because you need to free up more conventional memory. Conventional memory is the memory below 640k. Even if you have a PC with 8Mb of RAM, that doesn't mean that you'll automatically have enough conventional memory to run a demo.

To find out how much free conventional memory you have type MEM [Enter] at the DOS prompt. If the figure beside the line 'largest executable program size' is less than about 550k then your system probably isn't set-up properly.

You can free up more conventional memory by loading the EMM386 driver, which allows you to move other device drivers out of conventional memory and into upper memory, thus freeing up more space. To add the EMM386 driver you need to edit your system files (the AUTOEXEC.BAT and CONFIG.SYS files). Make a copy of them before editing. At the C:> prompt type:

COPY C:\CONFIG.SYS CONFIG.BAK
COPY C:\AUTOEXEC.BAT AUTOEXEC.BAK

Then, if you have any problems later on you can return to these files by typing:

COPY C:\CONFIG.BAK CONFIG.SYS
COPY C:\AUTOEXEC.BAK AUTOEXEC.BAT

To edit your system files type EDIT followed by the name of the file. The following lines should be in your CONFIG.SYS file:

DEVICE=C:\DOS\HIMEM.SYS

DEVICE=C:\DOS\EMM386.EXE NOEMS

DOS=HIGH,UMB

Any lines starting with DEVICE should be changed to DEVICHIGH.

In the AUTOEXEC.BAT any device being loaded should now be loaded into high memory. For example the line:

C:\MOUSE\MOUSE should read:

LH C:\MOUSE\MOUSE

These changes should result in greater free conventional memory. Another way to free up more conventional memory is to remove any Terminate and Stay Resident (TSR) programs that are automatically loaded by the system files. The following lines are not essential for using CD Review. If you see them in your system files, disable them by putting REM at the start of the line.

In Config.sys you may want to rem out any line containing SMARTDRV.SYS, DISPLAY.SYS or COUNTRY.SYS.

In Autoexec.bat you could remove any line containing SMARTDRV or DOSKEY and any line that loads a memory resident virus checker.

You can return your system to its previous state by removing the REM commands, then rebooting your system. Remember any change to a system file will not take effect until your system has been rebooted.

EMS Memory

Some PC games require EMS memory rather than XMS memory. To configure your PC for EMS memory change the line in your CONFIG.SYS reading:

DEVICE=C:\DOS\EMM386.EXE NOEMS to:
DEVICE=C:\DOS\EMM386.EXE RAM

and reboot your machine for the changes to take effect. You will probably have to change back to XMS memory by reversing the above change for your other programs to work.

DirectX

DirectX is a series of drivers developed by Microsoft to increase the speed of graphics and sound processing under Windows 95. In particular, games and multimedia applications demand the fastest possible display performance. The drivers are still in development however, and there have been reports of DirectX overwriting default graphics drivers and thus crashing Windows 95.

If, after running a DirectX demo from CD Review, you experience graphics problems when restarting Windows 95, you will need to restore the original drivers. To do this:

1. Shut down your PC.
2. Restart Windows in safe mode. To do this, press [F8] when your PC reports it is 'Starting Windows 95'. Then select 'Safe Mode' from the menu
3. At the desktop, insert the CD REVIEW disc. Press Start and then select Run from the Taskbar.
4. At the prompt type D:\DIRECTX\DXSETUP.EXE (where D: refers to the letter of your CD drive).
5. The DirectX set-up program will now appear. Select 'Restore Windows 95 Drivers' to return your PC to normal.

We should add these are problem are rare, and they should not put you off enjoying the contents of CD REVIEW.

Disclaimer

CD Review is thoroughly checked for all known viruses, and independently certified before duplication. While every care is taken in selection, testing and installation of CD Review, Future Publishing cannot accept responsibility for loss or damage occurring during its use. You are strongly advised to have recent, verified back-ups of all important files before installing any new software.

Support

If you need help getting a demo to work then phone our technical support line on 01225 442244 and ask for Reader support. Better still, e-mail him on support@futurenet.co.uk.

RUNNING PROGRAMS MANUALLY

Windows 3.1

To run a program manually using Windows 3.1 select File from the Windows Program Manager menu, then select Run from the pull-down menu. Use the Browse option to select the directory, and then the file. Double click on the file name to run it.

Windows 95

Using Windows 95, click the Start button from the menu bar, then select Run. Use the browse option to select the directory, and then the file.

DOS

Type CD followed by the directory name at the DOS prompt of your CD-ROM drive, then press [Enter]. Finally, type the name of the file and press [Enter].

Program directory and filename

Here's a list of the executable files you need to run (assuming your CD-ROM drive is D:\)

'A Plug-In' Trial
D:\WORKS\APLAYTRY\APLUGTRY\SETUP.EXE
A10 Cuba!
D:\PLAYER\A10CUBA\A10CUBA.EXE
Best of British Shareware
D:\SMARTCD.EXE
Ecstatica 2
D:\START.EXE
Golf Score Card 2.0
D:\PICNMIX\GOLF\SETUP.EXE
M4 Life Saver
D:\PICNMIX\LIFESS\LIFESS32.EXE
Mixman Spin Control Demo
D:\WORKS\ MIXMAN\SETUP.EXE
Musée D'Orsay
D:\ORSAY\ORSAY.EXE
Porsche Boxter 2
D:\PORSCHE2\SETUP.EXE
Privateer 2: The Darkening
D:\PLAYER\P2DEMO\INSTALL.EXE
Quake Collection
D:\PLAYER\PROGS
D:\PLAYER\NEWLVL
Scorcher
D:\PLAYER\SCORCHER\SCORWIN.EXE
Skynet
D:\PLAYER\SKYNET\INSTALL.BAT
Visual Basic 4 Working Model
D:\WORKS\VB4\SETUP.EXE
Windows Draw 3.0
D:\WORKS\WINDRAW\SETUP.EXE

Contacting Reader Support

Before contacting our technical support department please make sure that you have all the relevant information that we will need. We have included a program on CD REVIEW to help you with this. Just follow the CD REVIEW and run it from the trouble shooting area of our main interface. When finished, save it as a text file or print it out. When you call in, having all the details to hand will speed up the help process.

EXCLUSIVE
Win one of the UK's first Yaroze!

GAME ON!!

Join the next bedroom
programming revolution,
by winning the new
Sony Yaroze
PlayStation with
PC REVIEW.



For more information on
the Yaroze, phone
0171 447 1616 or check out
the Yaroze home page at
<http://www.scee.sony.co.uk/yarinfo/index.html>

THE RULES

1. Answers please on a postcard or in an envelope addressed: Yo, Yaroze!, PC REVIEW, Future Publishing, 30 Monmouth Street, Bath, BA1 2DL. Or, emailed to pcreview@futurenet.co.uk.
2. Don't forget to put your name and address on the entry. Make sure you get it to us before 11 March.
3. This competition is not open to employees of Sony or Future Publishing.
4. No multiple entries.
5. No correspondence will be entered into over the results of the competition. The judge's decision is final.
6. The winning entry and winner's name will be printed in the April issue of PC REVIEW, on sale 8 April.

Developing a full-blown PC game in your own home is difficult. But developing a game for the Sony PlayStation from your bedroom is nigh on impossible. How would you program the thing? With the joypads? With harsh language?

With the Yaroze, Sony hopes to nurture fledgling development talent by enabling people to write PlayStation games. Whereas the necessary development gear previously cost thousands of pounds, the Yaroze checks in at just £549.99. And Sony isn't just dumping its so-called Black PlayStation onto would-be programmers – it's going to support them with an exclusive Web site. When you buy a Yaroze, you don't become an owner – you become a member.

Why should this interest you? Because to develop games with the Yaroze, you also need a PC. Whereas a keen PlayStation gamer

will need to shell out for a computer as well as the Black PlayStation, you, as a PC REVIEW reader and hopefully a PC owner too, already have a head start. Sony reckons that the Yaroze kit combined with a PC

gives you everything you need to develop games to the standard of *Ridge Racer*. Providing, of course, that you can supply the talent.

Indeed, win our competition and you'll not need to spend a penny. Because we've teamed up with Sony to bring you the first ever chance to win one of the first Yaroze to reach the UK. Simply direct your eyes to the appropriate box below! Oh, and if you do develop the next *Wipeout*, do let us know.

You what?

Yaroze (ya'ro'zei) *vb.* 1. Japanese expression of encouragement, equivalent to the German phrase "Auf Getz", roughly translates into English as "lets do it". *n.* 2. The name for an innovative piece of hardware that will allow PlayStation to be used for development by anyone and everyone.

THE TECHNICAL SPECIFICATIONS

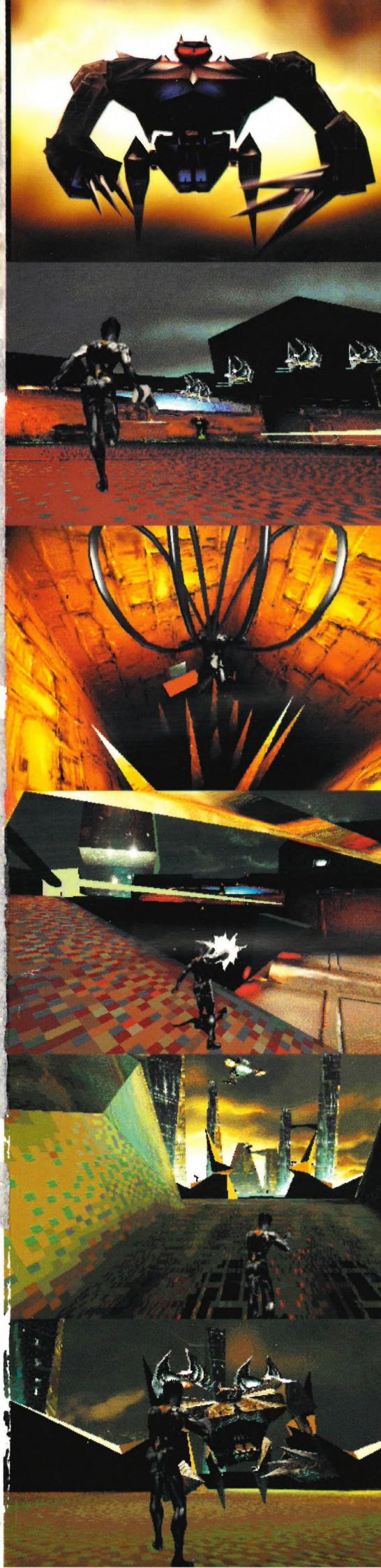
The Yaroze comes with 2Mb of main RAM, 1Mb of VRAM (video RAM for double buffering) and 0.5Mb of SRAM (sound RAM). Tools and libraries are also supplied. You'll get the standard C programming libraries, the PlayStation math libraries and 3-D rendering libraries. Sony also provide you with the core R3000 C compiler, together with a linker and a debugger so you can immediately start writing games for the special PlayStation.

To Win a Yaroze...

Simply outline in 50 words or less the game you'd like to develop with your new Black PlayStation. It's not enough to simply say: "I would make a racing game, now hand me a Yaroze." We want innovative, interesting ideas which will make you and your Yaroze as famous a creative team as the Bitmap Brothers, or Humphrey Bogart and Lauren Bacall. For instance, will it be an arcade action racer, or a full-on, sophisticated, multi-optioned F1 simulation. You might even come up with a whole new gaming genre.

The game design that we judge to be best will be the winner. The winner's name and game design idea will be printed in the April issue of PC REVIEW, which goes on sale on April 8, 1997.

Please also indicate on your postcard whether or not you already own a Sony PlayStation. Oh, and one more thing: good luck.



MADONNA DATES KYLIE?

» Looks like being one of the best PC games ever «
PC ZONE



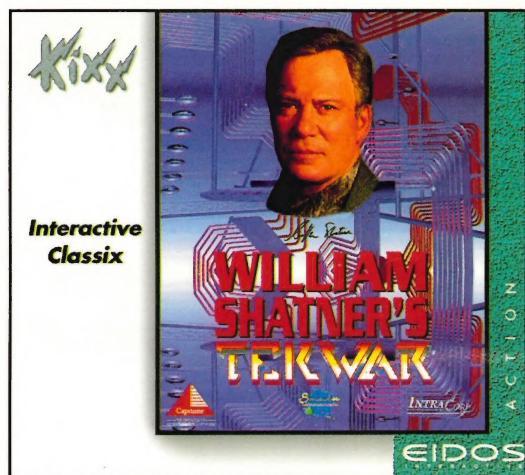
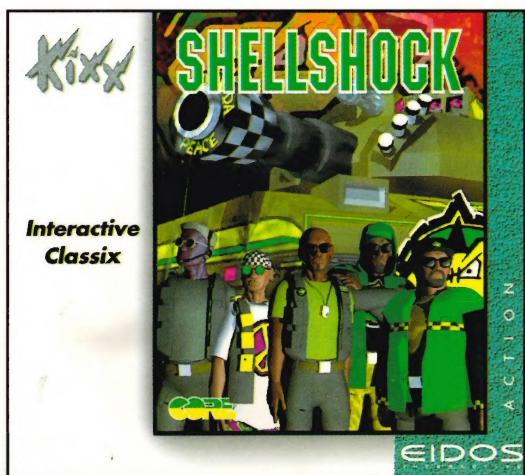
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Website <http://www.shiny.com>

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M I N I M U M O U T L A Y



Interactive Classix



M A X I M U M G A M E P L A Y

Kixx

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